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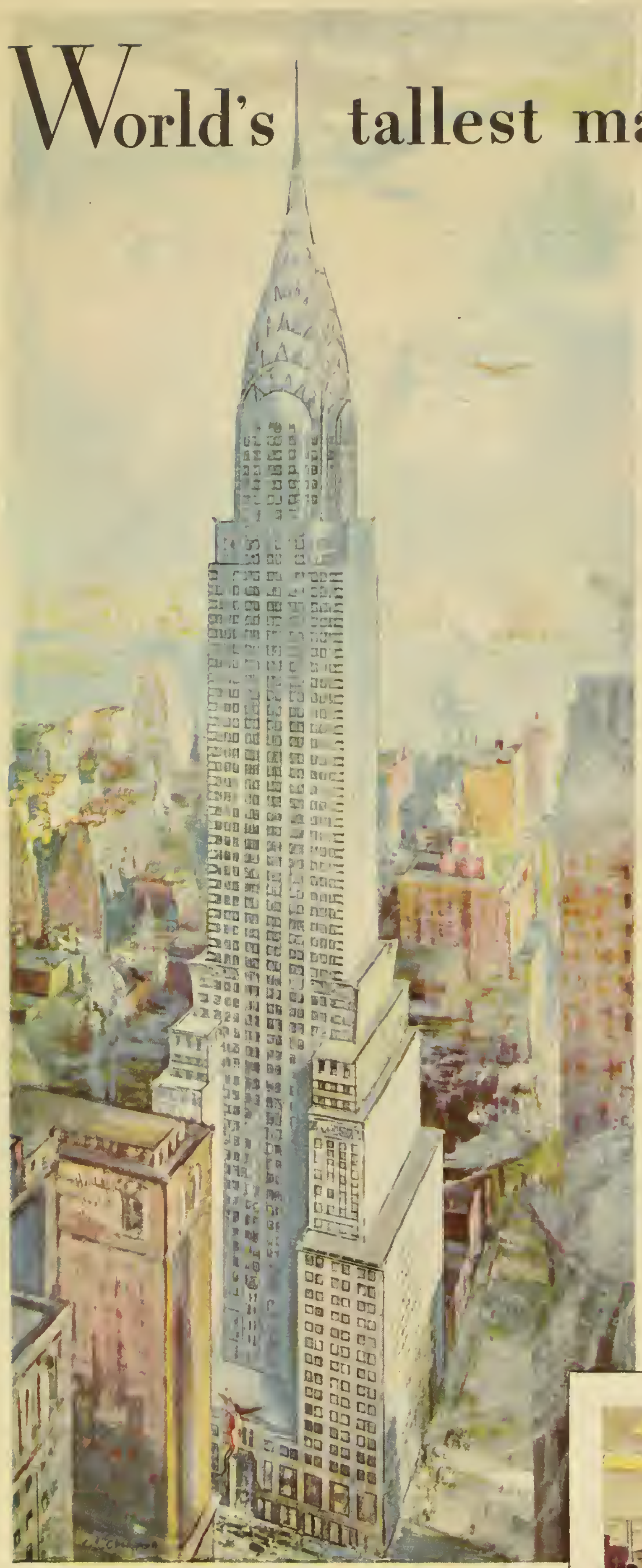
World's tallest man-made structure *lubricated* by Texaco



TALLER even than the Eiffel Tower — the new Chrysler Building pierces the clouds 1046 feet above the sidewalks of New York. It represents the culminating achievement of the architectural efforts of all the ages.

But the Chrysler Building is more than a monument — it has become a center for world-wide business. Executives, salesmen, thousands of employees, must be whisked ten, fifty, even seventy-one floors in brief seconds! To do this the Chrysler Building maintains the world's longest installation for vertical transportation. The smooth, faultless operation of this highly perfected elevator system is assured by the exclusive use of Texaco Lubricants.

It is always Texaco that goes hand in hand with the pioneers of progress — fueling and lubricating new airplanes, new liners, new automobiles, new industrial machines. Because Texaco, too, is a pioneer. Always advancing, always improving—ever paving the way for greater achievement by anticipating every fuel and lubrication need with a specially developed and distinctly superior product.

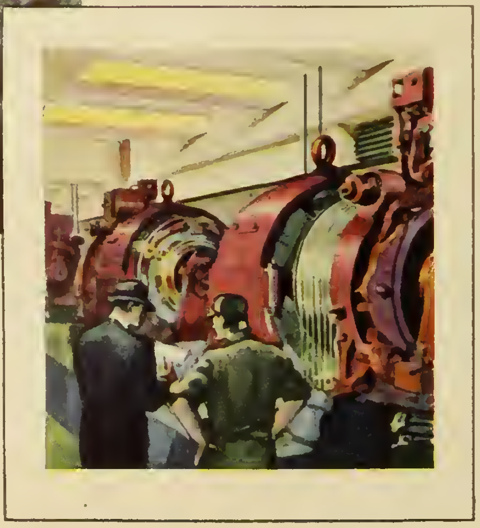
To every manufacturer, engineer, and motorist, in each of our 48 States, the Texaco Red Star with the Green T points the way to finer quality and greater economy in petroleum products.

THE TEXAS COMPANY

Refiners of a complete line of Texaco Petroleum Products including Gasoline, Motor Oil, Industrial Lubricants, Railroad and Marine Lubricants, Farm Lubricants, Road Asphalts and Asphalt Roofing.

TEXACO

The mark of quality for petroleum products



The Chrysler Building is served by 32 swift passenger elevators capable of 1000 feet per minute. Batteries of motor-generators, motor-driven hoists, selector equipment, automatic safety devices and a vast network of cables and intricate electrical machinery complete the system.

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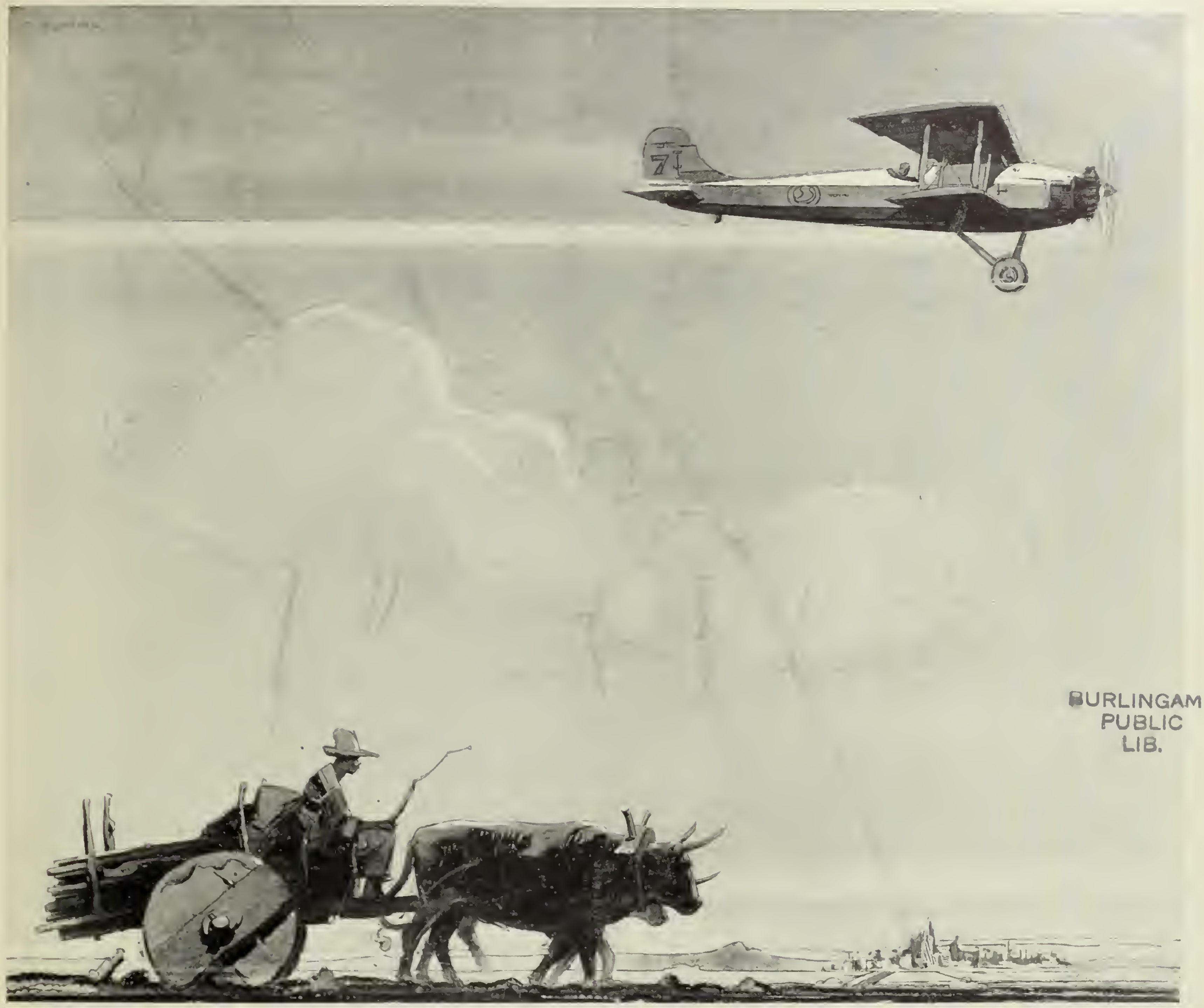

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"To save time is to lengthen life—"

"Acceleration, rather than structural change is the key to an understanding of our recent economic developments."

—From the report of President Hoover's Committee on Recent Economic Changes

THE PLOD of the ox-cart. The jog trot of the horse and buggy. The rush of the high-powered motor car. The zoom of the airplane. Acceleration. *Faster* speed all the time.

Speed and more speed in production, transportation, communication, and as a result, more wealth, more happiness, and yes, more leisure for us all.

Scientific research has been the pacemaker of this faster, yet more leisurely, existence. At a steadily increasing rate it is giving us hundreds of inventions and improvements which speed up work, save time and money, revolutionize life and labor in the modern age.

Conceive how much time modern electric lighting has saved the American people—not to mention the billion dollars a year in lighting bills saved by the repeatedly improved efficiency of the Mazda lamp. Think of the extraordinary democratization of entertainment and education made possible by the radio tube!

Both these benefits to the public owe much to the steady flow of discovery and invention from General Electric laboratories. So do the x-ray and cathode-ray tubes, the calorizing of steel, atomic-hydrogen welding, the generation of power for home and industry at steadily lower costs.

The G-E monogram is a symbol of research. Every product bearing this monogram represents to-day and will represent to-morrow the highest standard of electrical correctness and dependability.

For the Home—General Electric and its associated companies manufacture a complete line of electric products including G-E Mazda and G-E Edison Mazda lamps, G-E refrigerators, G-E fans, G-E vacuum cleaners, G-E wiring systems, Edison Hotpoint heating appliances, and G-E motors for other household electric products.

For Industry—Several thousand electric products and appliances, including generating and distributing apparatus, motors, electric heating apparatus, street lights, floodlights, traffic lights, airport lights, Cooper Hewett lights, Victor X-ray apparatus, motion-picture apparatus, electric locomotives and equipment, and street-car equipment.

JOIN US IN THE GENERAL ELECTRIC HOUR, BROADCAST EVERY SATURDAY EVENING ON A NATION-WIDE N. B. C. NETWORK

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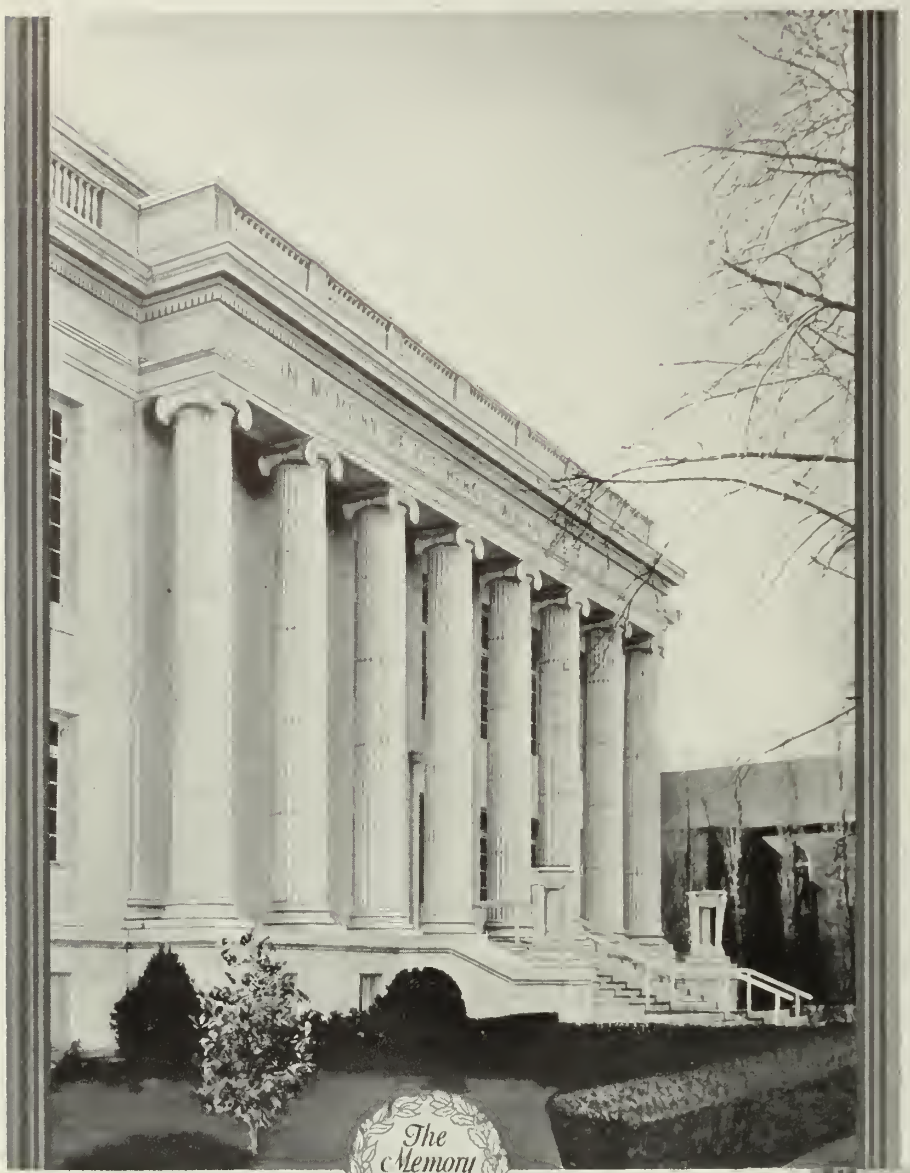
ELECTRIC

All that is beautiful shall abide FOREVER



The Memory Stone

THE first Red Cross Memorial Building, erected in 1915 to commemorate the activities of all the women of the Civil War, both southern and northern, was designed by the architectural firm of Trowbridge & Livingston. It was built of Vermont Marble from the famous Imperial Danby quarries, with White Rutland and Royal Antique for the interior walls.

And now in 1930, another Red Cross Memorial Building designed by the same architects, and built of Vermont Marble from the same quarries, is dedicated to the heroic American women who served the nation in the World War. The new facade is illustrated at the left.

Chosen because of its beauty and permanence, Vermont Marble gives the Red Cross Memorial Buildings the dignity and serenity of all things ageless and everlasting. As in public memorials, so in private family memorials, Vermont Marble is being increasingly used for the mausoleum and the simpler types of cemetery memorials, as shown below. Vermont Marble is *the nation's memory stone.*

Write for the free booklet, "All That is Beautiful Shall Abide Forever." It gives helpful information on the problem of selecting appropriate memorial designs. Our Department of Plan and Design will gladly co-operate with a Master Craftsman in Marble in your vicinity, without obligation, in submitting sketches and estimates for your special requirements. Address: Dept. F 303, Vermont Marble Company *(the world's largest quarriers of marble)*, Proctor, Vermont.

IN addition to the distinctive beauty of Vermont Marble is its resistance to the wearing effects of climatic conditions. Of these, the most destructive during the course of centuries is moisture. Bulletins of the governmental Bureau of Standards show that monumental grades of Vermont Marble absorb only about one-third as much water as the average of other memorial stones. Vermont Marble is imperishable and everlasting.

VERMONT MARBLE

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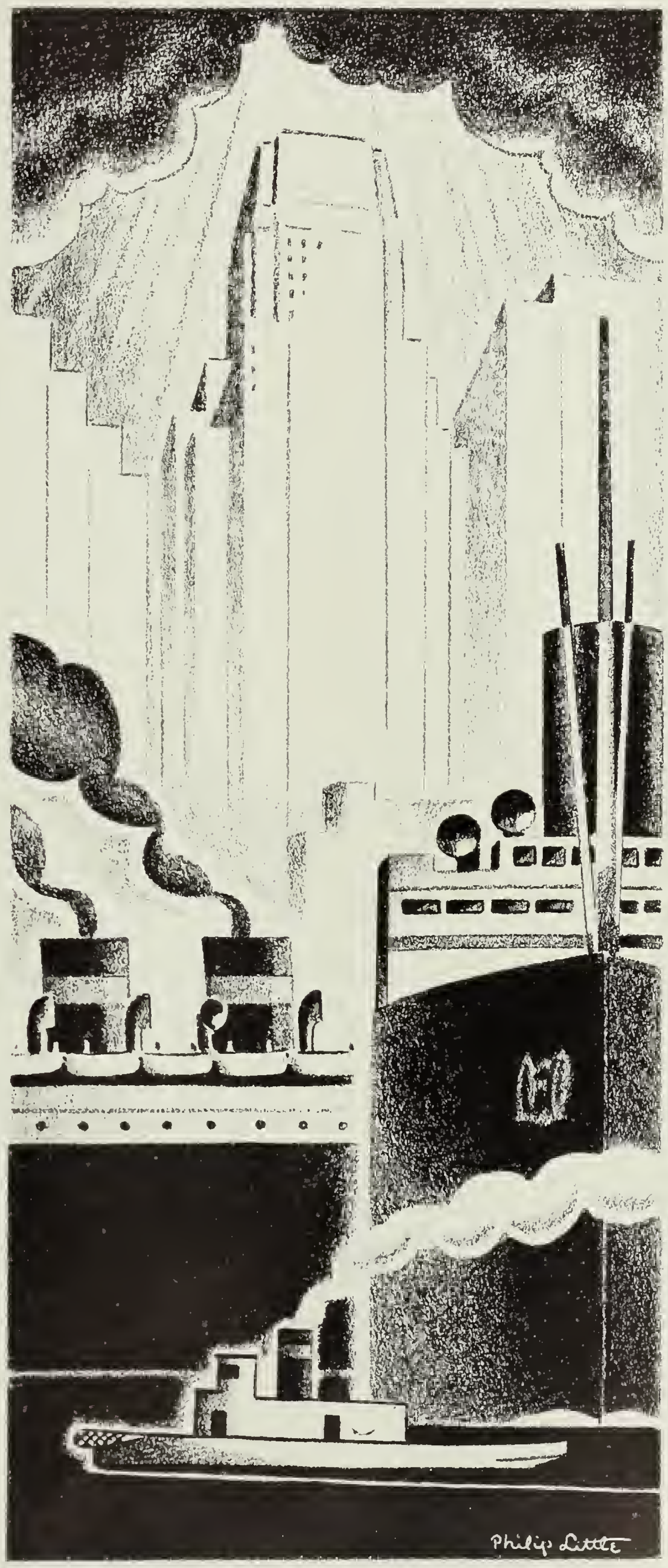
WORLD CITY OF A NEW ERA

SAN FRANCISCO—BUSINESS HEADQUARTERS OF THE WEST TODAY; TOMORROW ANOTHER GREAT NEW YORK



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Today headquarters city of Western commerce, finance and industry, San Francisco owns an admirable place. But as this West spreads wide across the ocean, as the Pacific Era dawns on the awakening of 900,000,000 people in the lands that the ocean borders, San Francisco becomes a city to challenge your imagination!

Traditional gateway to a near-billion people who look upon America as a miracle and want the *miracle-things* it has to sell, San Francisco is destined for the leadership in a commerce greater than the world has ever known.

Many are the claimants to the leadership in this new era. But out of the mass of claims that conflict, San Francisco's rises clear and clean . . . on fact.

Its port, second in the United States in value of water-borne tonnage, is port of call for the steamships of one hundred and forty-six lines. Three transcontinental railroads compete to serve it best. Natural gas, efficient and economical, an all-year even climate and a plentiful supply of labor that is both contented and highly productive combine with the wealth of raw materials that are immediately available to make this a manufacturing center without a western equal. Indeed, San Francisco is today headquarters for the leading manufacturing, as well as financial, commercial and distributing interests in the West.

Often obscured is the fact that 11,000,000 people who live West of the Rockies can be served more quickly and cheaply from San Francisco than from any other single city. Furthermore almost half the people of California live within a radius of one hundred and fifty miles from the foot of Market Street. 1,600,000 people, of greater than average per capita wealth, live within the radius of an hour's ride.

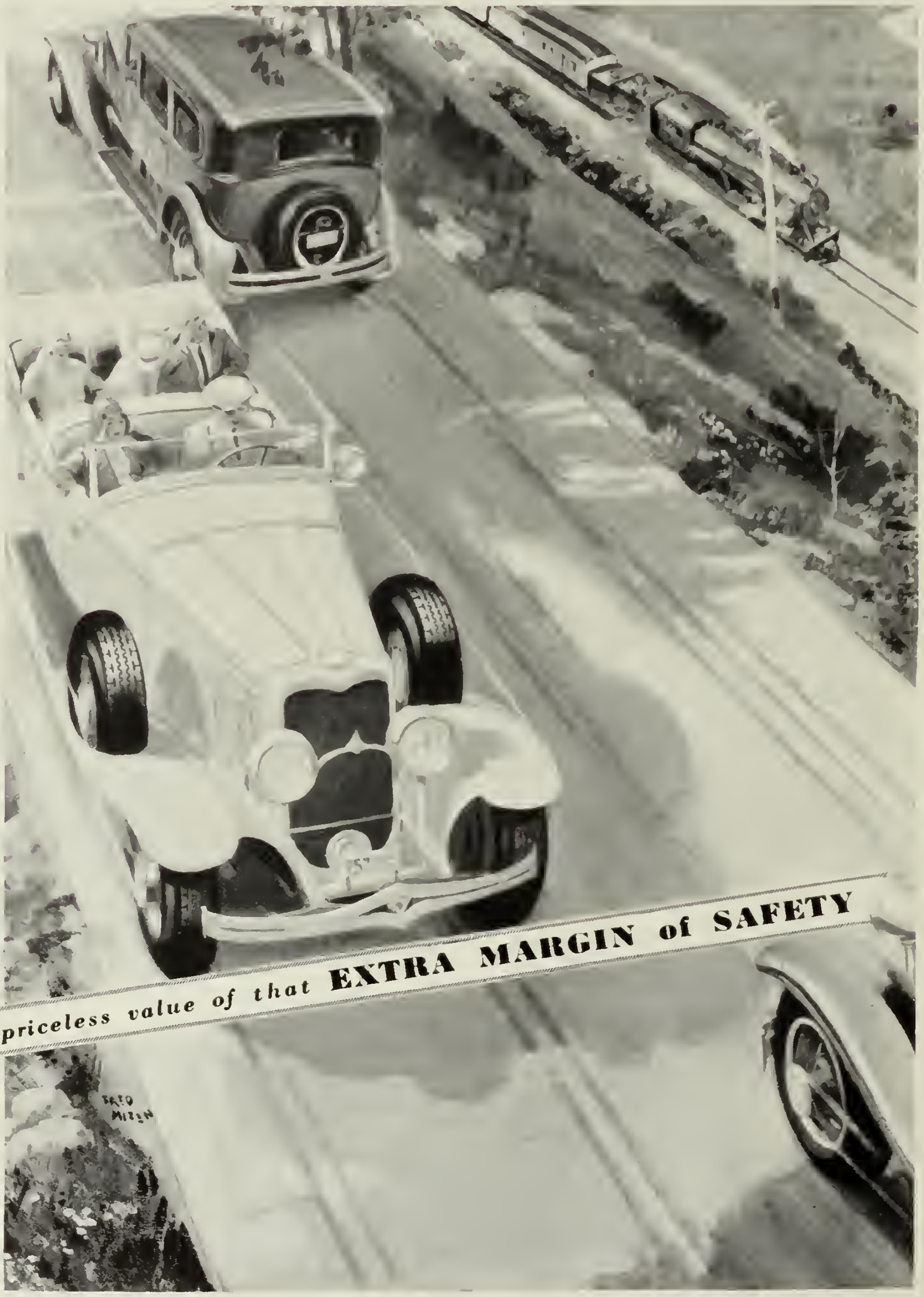
Truly, San Francisco's promise for the future is based upon undeniable facts of the present. *The West is building up another great New York!*

Californians Inc., Dept. 2207, 703 Market Street, San Francisco, will be glad to answer authoritatively any question you may have; to send you the book, "Why Manufacturers Choose San Francisco." There is no obligation, of course.

SAN FRANCISCO

IN CALIFORNIA—"WHERE LIFE IS BETTER"

AT SIXTY *you are going* . . . 88 FEET A SECOND!



—goes a long way
to make friends
20,000
40,000
60,000
8

Sixty miles an hour is not uncommon to-day—but *it's still a mile a minute!* At sixty you are traveling 88 feet a second. Even at 40 miles per hour you are going 60 feet a second.

As you travel your allotted half of the average highways of to-day there are scant margins on either side that keep you within the bounds of safety. Too scant, in fact, to run the risk of a premature blow-out.

If a right front tire blows you are off the highway into certain trouble. On the left there's the risk of side-swiping the passing traffic.

These split seconds, when driving skill means little, are better avoided by depending on tires that were built to hold together throughout their full period of big mileage. Whenever the emergency comes up and the full responsibility for your safety rests on rubber—that's when you realize the priceless value of that *extra margin of safety* in the *Dual*-Balloon.

Lower pressure gives you greater riding comfort. Lower pressure plus extra plys of soft cushion rubber mean an extra 'give' inside and throughout the tire. These built-in shock absorbers cause softer riding—a closer clinging grip of wide-spread tread—double traction.

In the *Dual*-Balloon these safety factors are permanent throughout its whole period of big mileage. They mean freedom from running on risky rubber at average speeds or when time or temptation carry you past sixty. The General Tire & Rubber Company, Akron, Ohio.

Split seconds that make you realize the priceless value of that EXTRA MARGIN of SAFETY

Complete motion picture films (including slow motion detail) showing a series of non-skid tests of all types of tires on snow and ice and on wet pavement, will be furnished Automobile Clubs and other organizations for use in safety first campaigns. Car owners can obtain illustrated bulletins of these tests. Address your General Tire Dealer or the General Tire and Rubber Co., Akron, Ohio.

THE WORLD'S SAFEST TIRE

The GENERAL *Dual*-BALLOON 8

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SOME OF THE PLACES WHERE YOU MAY DINE IN COMFORT

Governor Clinton, N.Y. · Astor Grill, N.Y. · Hotel Paramount, N.Y. · Hotel Gibson, Cincinnati · Commodore Perry, Toledo · Los Angeles Biltmore, Los Angeles

Ask for the rooms where they have Manufactured Weather

How long before all HOTELS will offer Manufactured Weather to their Guests?

NOT very long, if you judge from the trend of prominent hostelries today. Dine at the Gibson Roof or tea room in Cincinnati . . . the dining rooms and grill of the Governor Clinton in New York. Dance in the grill of Manhattan's Paramount or Astor.

In spite of oppressive summer weather, your appetite gains zest. It's never "too warm to dance."

However "close" or scorching it may be outside . . . you are refreshed . . . invigorated. The atmosphere is as pleasant as a perfect spring day . . . because these hotels offer Manufactured Weather.

These places are talked about . . . are written up in magazines and newspapers. Word-of-mouth advertising soon spreads the news that here is sure relief from depressing, humid weather. Table linen is fresh and crisp because dust and dirt have been removed from the air. Dainty summer frocks won't soil as quickly. There is a noticeable freedom from smoke, odors and stuffiness, so frequently encountered in popular restaurants.

Entertainers are more vivacious . . . the orchestra is livelier . . . waiters are more courteous . . . because Manufactured Weather provides an agreeable climate which falls within what engineers call the "comfort zone." Air is never too muggy and humid . . . never too dry . . . either in summer or winter. And all the time this conditioned air is alive with gentle motion.

Hotels are but one of many types of business that now offer patrons comfortable, refreshing weather.

(*Top*) HOTEL GIBSON *in Cincinnati attracts diners, dancers, and afternoon bridge players to its Roof with Manufactured Weather.* (*Below*) *It's never "too warm to dance" in the hotel grill that makes its own weather. Picture was taken in Paramount Grill, New York.*

Department stores have found that Manufactured Weather pays. One great store has already invested a cool million dollars in this service. But there are also Carrier systems which will produce these same delightful conditions of comfort in small shops or restaurants for an investment of only a few thousand dollars.

Manufactured Weather refers exclusively to complete air conditioning as produced by the systems designed and installed by Willis H. Carrier and his associates. It is paying its way today in more than 200 types of industries . . . in more than 3000 installations.

We suggest that you get in touch with our Newark Office at once for full information about what it is doing in *your business field.*

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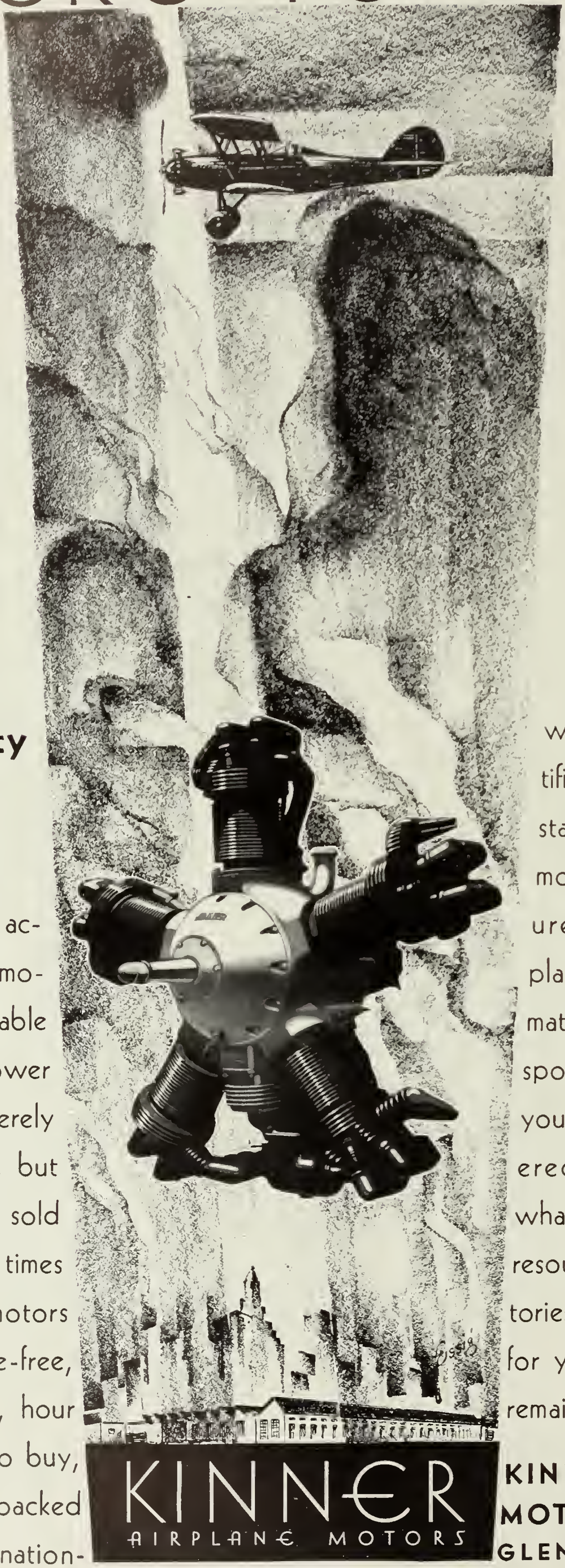
Manufactured Weather *makes* "Every day a *good* day"

THERE TO STAY



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Behind the nation-wide acceptance of this aircraft motor, is a story of dependable performance, smooth power and stamina. ◆ Not merely one, not one hundred, but every Kinner motor has sold itself to its owner many times over. Kinner aircraft motors everywhere deliver care-free, dependable flying time, hour after hour. Economical to buy, inexpensive to operate, backed by instantly available nation-wide service, Kinner has justified its record as America's standard 100 h. p. aircraft motor, 46 aircraft manufacturers have powered their planes with Kinner motors. No matter what light business or sport plane takes your fancy, you will find it Kinner powered. And if you wonder what of tomorrow? The vast resources of the Kinner laboratories will answer that question for you. Kinner is building to remain . . . America's standard.

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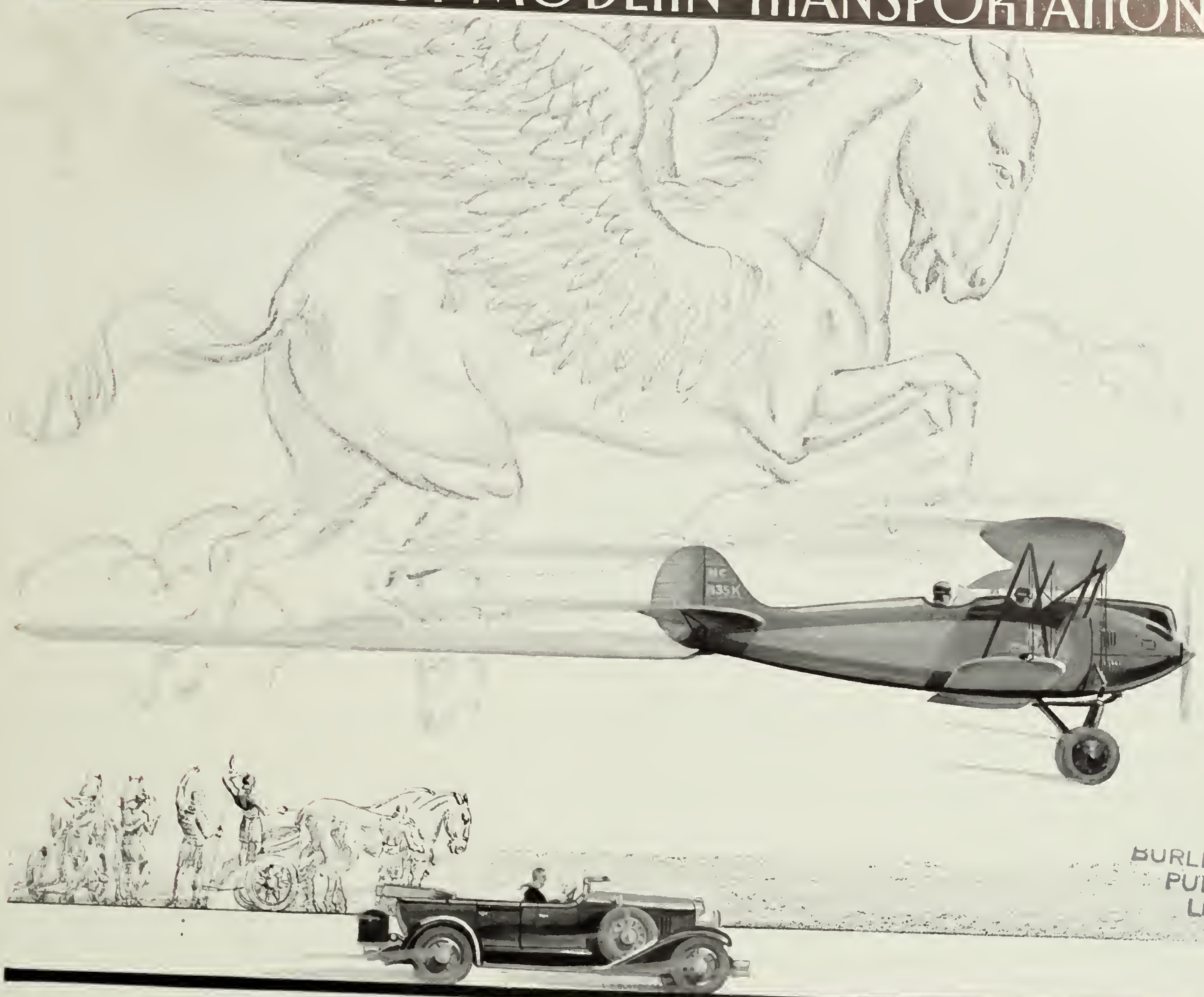
PEGASUS OF MODERN TRANSPORTATION



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·····GREAT LAKES SPORT-SPECIAL ···· *at motor car cost*

The practical sportsman of today climbs into his Great Lakes Sport-Special and scoffs at the myth of Bellerophon and Pegasus and the golden bridle. Here's something REAL that beats all hollow the most fantastic dreams of the ancients! . . . . Try this new, improved 1930 model Great Lakes Sport-Special . . . . the most thrilling ship a-wing! Touch the throttle and laugh at space. Comfort? . . . . it's snug and easy as your favorite chair . . . . and smart as a box at Meadow Brook. With the verve and dash of a Titian-haired debutante . . . the stamina of a buckskin bronco. Swift as a swallow . . . safe as perfect craftsmanship and endlessly careful engineering can fashion! . . . And the initial cost, upkeep and service of the Great Lakes Sport-Special is no greater than that of the car you are probably driving tonight! . . . . Your local Great Lakes Operating-Dealer will teach you to fly. Go to him today. Ask him to take you up in the new 1930 Great Lakes Sport-Special . . . . and treat yourself to the greatest thrill of your life! . . . . If you don't know your Great Lakes dealer, write us for his name. Address: Great Lakes Aircraft Corporation . . . . Divison J-20 Cleveland, Ohio.

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FLY AWAY $3150 CLEVELAND

Off the Record

Hero's Bills

It was Richard Evelyn Byrd who drew the best parallel between exploration and an essential though often unremunerative phase of business. "Exploration," he said, "is now in a class with abstract research by chemists, physicists, and biologists of two centuries ago. Pasteur . . . " he continued, and he mentioned Faraday. He might have modernized the parallel. One remembers Alexanderson and his alternator. The returns of exploration are therefore confined in the future. A Piltdown Man or Mr. Roy Chapman Andrews' dinosaur eggs may some day confirm the presuppositions of evolutionists, and perhaps a new and strong faith will be builded. An alternator may build a Radio Corporation of America.

But as a matter of fact, exploration also has immediate returns, often red. It cost the United States $32,080,266,968 to send its Army to Europe, but perhaps that exploration needs no mention. In 1925 Admiral Byrd made his début as an explorer. He proposed a base in Greenland, counted on government financial support, supplemented it with support from MacMillan, but even at that the trip is supposed to have ended in debt. In 1926, wiser, he enlisted support from John D. Rockefeller Jr., Vincent Astor, Edsel Ford. Later he said, ". . . [the trip] cost in cold cash about $140,000 . . ." He was a hero when he returned, but he owed about $40,000. Rodman Wanamaker paid the bill for the flight to France, about $200,000 in all. His South Polar trip cost more than $900,000. The Martin Johnson Expeditions were financed by Manhattan bankers for about $2,500,000. Martin Johnson made, for the cinema *Simba* grossed approximately $2,500,000. There were also a book and lectures, the last probably the most trying experience of modern exploration.

In 1926 when Wilkins and Eielson started off on their Detroit Arctic Expedition they were promised $100,000 by a finance committee. The North American Newspaper Alliance gave $25,000; Wilkins himself gave $15,000. But by the time they left, the $100,000 had dwindled to $70,000, and it had cost $40,000 to raise even that. Raising the money, as he later confessed, was a great humiliation to Wilkins. He had to attend luncheons and ask for money; he had to sell his autographed photographs. He then set out and crashed. The next summer he set out again, was again forced down. Practically discredited, he nevertheless tried a third time, in 1928, and made the brilliant flight to Spitzbergen. Detroit canceled the debt for the first trip; the New York *Times* bought the story; a lecture manager sold several thousands of dollars' worth of lectures; Hearst offered $40,000 for the news rights of an antarctic flight. Wilkins emerged from the red.

In 1920 Roy Andrews put whaling and South Sea adventuring aside for a serious effort to find traces of ancient man in Central China. He had been figuring expeditionary costs for about ten years. In consequence President Osborn of the American Museum accepted as correct Andrews' estimate of $250,000 for the project.

"Sorry we can't give it to you," said Osborn.

Roy Andrews sighed, then fell to lecturing and writing for months. But he kept a weather eye out for someone to grubstake him.

He wrote: "As every explorer knows, the effort and nerve strain involved in financing a large expedition far surpasses the difficulties of actual field work." Mr. Andrews is a robust man, but he nearly cracked under the strain of trying to raise $250,000 by lectures at $100 and magazine articles as low as $50.

He went finally to J. P. Morgan. He reported the interview: "Mr. Morgan received me in his magnificent library on Thirty-sixth Street, and for fifteen minutes I told him of my plans and hopes. I had a map of Central Asia with me. It is characteristic of him that he asked only a few questions, but every one was straight to the point. 'How can you get there?' 'What do you expect to find there?' And a few others."

Because Andrews had two important assets of an explorer—charm and logic—he got the money he was after. It was easier than writing and lecturing, but anyone can write and lecture. He went to China and startled the world by finding dinosaur eggs 10,000,000 years old. He was once offered $100,000 for one egg, but didn't sell.

Sometimes explorers do sell, and the practice is altogether ethical. Peary sold a Greenland meteorite to a patron of the American Museum of New York for approximately $50,000. Other explorers have sold ivory, fox skins, native costumes, precious stones, and curios.

The sale of a book often keeps the explorer from declaring himself a financial failure. But the books must be timed to catch the Christmas sale or to appear before the cries of admiration have been stilled. Lindbergh returned to Washington from the Atlantic flight on June 11. His book was published on July 27 and sold about 400,000 copies of the $2.50 edition.

The business of exploration is not an easy business and rarely a very profitable business. Its cost with the years has increased. The expedition of Christopher Columbus cost only $2,115.

Chicago's Kahn

Louis ECKSTEIN is the Otto Kahn of Chicago (or, if you prefer, Otto Kahn is the Louis Eckstein of New York). But where Mr. Kahn does not own the Metropolitan Opera House and is not its impresario, Mr. Eckstein does own Ravinia Park and does book the stars who sing therein, and since many of the Metropolitan's stars (and many others of equal or greater notes) have often sung at Ravinia Park, comparison of the two is not amiss.

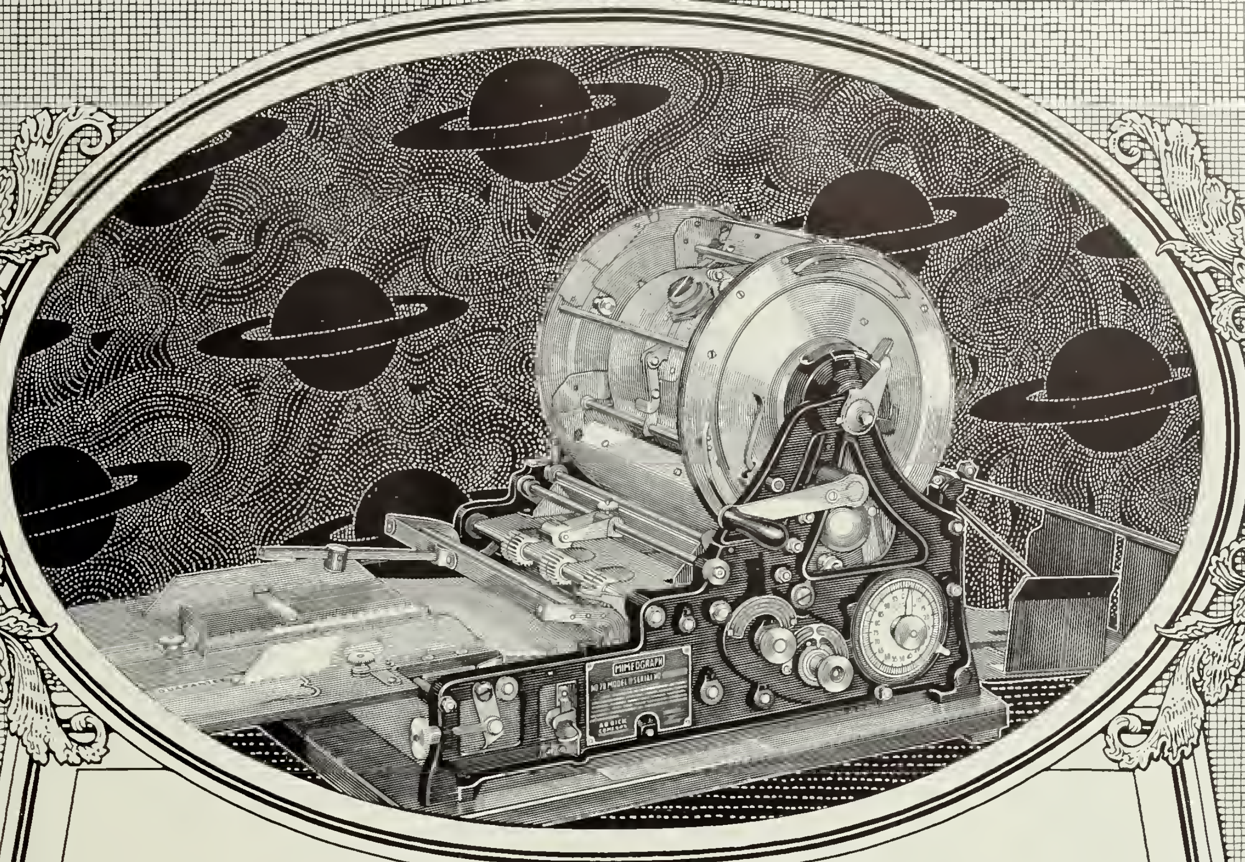
In Mr. Eckstein's office, where ostensibly the business transacted has to do with five-cent confection, hangs a chart. It has nothing to do with sales curves or peaks of production. Ranged across the top are the names of famous opera singers. Vertically and to the left are listed operas and the rôles in each. With minute checks and dashes Mr. Eckstein prepares on this chart the programs which each summer he brings to Ravinia Park. And to hear one of these programs Mr. Kahn each summer makes a special pilgrimage to Chicago.

No retired dilettante is Mr. Eckstein. He is interested in Chicago real estate, in magazines, in chain drug stores, in, as we mentioned, five-cent confections. But he holds dearest fealty to music and once played the violin sufficiently well to be numbered among the strings of the symphony orchestra of his native Milwaukee. It is perhaps here that he learned the great tact (which he and Mr. Kahn possess in common) with which he wrestles with operatic temperament. But the real estate, the magazines, and the drug stores supply the commodity with which operatic temperament is best allayed. To make up Ravinia's 1929 record deficit of $206,887.86, generous Chicagoans contributed $108,493.59. Mr. Eckstein cheerfully paid the balance.

The Life of George

A CENTURY ago the largest employer of negroes was probably some goateed grandee of the cottonfields. Today it is the Pullman Company, which employs 11,000 negroes as porters or maids, 5,000 as car cleaners, mechanics, laborers. The Brotherhood of Sleeping Car Porters, indeed, would draw the parallel uncomfortably close, casting the company in the rôle not of a kindly old "Massa" but of an industrial Simon Legree cracking a blacksnake economic whip over George's head. The Brotherhood regards the Pullman wage scale ($77.50 to $109 a month) as so low that were not George tipped by the public, he would starve. And to the Brotherhood "tipping" is a euphemism for "charity." Certainly the $7,000,000 spent annually by travelers on Pullman tips is a sizable expense that, one might argue, might better be borne by the company.

Be this as it may, the life of George would seem, on the whole, modest in its demands. On the *Twentieth Century*, for instance, he makes but six round trips a month, and on



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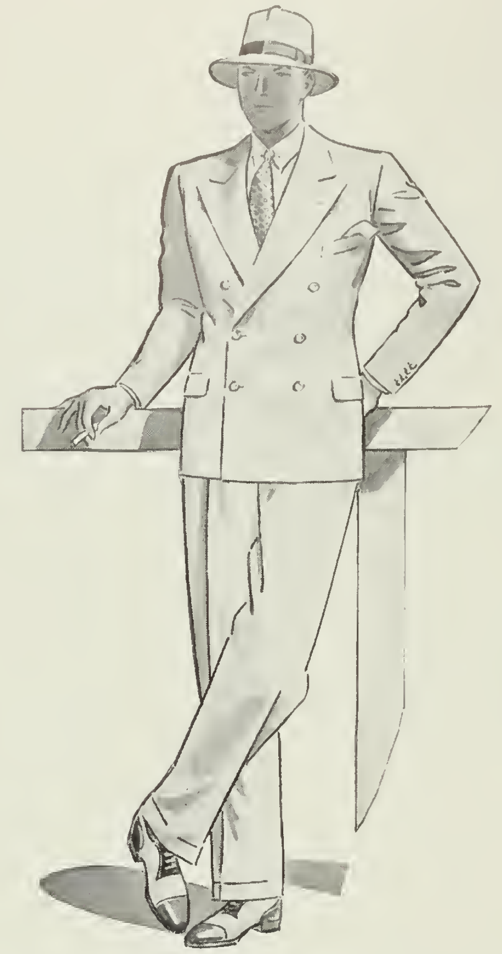

Gentlemen's Clothes

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Our summer clothes are styled to give the wearer the consciousness of being correctly and distinctively dressed while cool and comfortable Tropical worsteds, West of England flannels and other fine imported and domestic light-weight materials are tailored for us by Hickey-Freeman in the newer style variations, approved by representative sportsmen and university men

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MADISON AVENUE AT 46 STREET
New York

Off the Record—*Continued*

longer runs he gets even more time to himself. The *Oriental Limited* run (Chicago to Tacoma, Washington) takes him three days. At Tacoma he lays over for a day at the company's expense, including a free room. When he has made the return trip, which brings the total up to seven days, he goes home for a week. George sometimes likes the lay-over better than does his wife, who upon occasion has telephoned the company to complain that she is tired of seeing her husband around the house so much. If he is especially enterprising, George uses his many leisure hours in some subsidiary pursuit such as practicing law, driving a taxicab, or selling real estate. Such avocations he finds especially useful in the lean traveling season, which is between April 1 and June 15.

If George should lamentably be fired, he need not abandon himself to despair. He can carry his case successively to the district boss, the local committee, the zone general committee, and finally to his Supreme Court: the Pullman Bureau of Industrial Relations, which sits in Chicago every two months. This would seem to provide a safe margin of justice, but the Brotherhood remains unimpressed. Cynically, it points out that the district boss is the person who fired George in the first place, and furthermore that he sits on both the local and general committees. However, despite the sinister figure of the district boss, George stands in less danger of being unjustly discharged than do most unskilled workers.

"Unskilled" is perhaps a little harsh. The qualifications which a would-be porter must possess are, it is true, not impressive: he must be able to lift a berth without straining himself and to stay awake a long time. But, once accepted, he must diligently learn all there is to know about a Pullman car, from ventilation control to the correct way to make down a berth (incorrect is the traveler who asks his porter to "make up" a berth; George appreciates the passenger who uses the correct technical term). He must remember that in some states, such as Ohio, he cannot deliver for sale a package of cigarettes, that in Alabama card playing on trains is not permitted, that he cannot do anything about it when an innocent has been caught by a card shark, that the law forbids free passage of animals and birds. If he works hard, keeps his silver buttons shined, and shows some executive talent, George may in time become an "in charge" porter, which means that he is entrusted with all the duties of a Pullman conductor. There are several thousand such porters. In concluding this life of George, it should be said that there is nothing George dislikes more than being called George.

Nails, Fire Escapes

THE careers of two Chicago women oddly parallel each other not only in that they both have made successes of businesses founded by their husbands but also that these very businesses are, in the nature of their products, unusual. For the one produces fire escapes and the other soft-headed nails—i.e., nails with lead heads that flatten when struck, thereby making the nail water- and rustproof and causing it to be held in great esteem by the carpenters of rainy states. If further parallels be needed: in the veins of each courses some literary blood, one being a rather distant cousin of James Whitcomb Riley, the other being the daughter of a Polish writer and translator, Henry W. Koch. And both are widows, though only one has been married three times.

Mrs. Kathryn Riley Filshie is the one who owns kinship to the Hoosier poet. The nails she manufactures were invented and patented by her late and only husband, Mr. Alexander Filshie. A rather timid man, Mr. Filshie allowed his interest in his nails to remain more or less lackadaisical until his death in 1917, when presumably he ceased to care about them altogether, and it remained for his wife to devote to them the attention they undoubtedly deserved. Interested in machinery, she was already familiar with her husband's small factory. Progressive, she decided to enlarge it and to secure advance orders. These two desires were accomplished almost simultaneously if not instantaneously, and now Mrs. Filshie's nails are sold in South and Central America as well as in the United States and Canada. And her yearly output, she will precisely tell you, is

Your Gas Company is no Magician

BURLINGAME
PUBLIC
LIB.

and yet . . . . it furnishes you a fuel with which to heat your home which magically solves the winter-heating problem . . . .

• Gas is clean . . . it burns without generating soot, dust, odor, grease, or vapors. Gas is wasteless . . . there is no ash, no residue. Gas requires no storage space . . . it is delivered, as needed, by pipe. Gas is more accurately and quickly responsive to automatic control than any other fuel. You do not need to order gas in advance. You do not pay for it until you have enjoyed its benefits.

• Is it any wonder that in the past few years the spread of gas-heating, from coast to coast, has been so outstanding that in many sections the house which is *not* gas-heated is admittedly depreciated in value?

BRYANT GAS HEATING

...lets your pup be your furnace man

© 1930, BHMC

17885 ST. CLAIR AVENUE ★ THE BRYANT HEATER & MANUFACTURING CO. ★ CLEVELAND, OHIO

The SPORT Airster

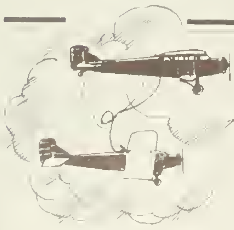
..by Buhl

This new model—the Airster—is especially planned for the sportsman. It is a 3-place low-wing design with a 300 h. p. Wright Whirlwind engine and an exclusive adaptation of the N.A.C.A. cowling that gives it a high speed of 170 m. p. h. It is also built with an ample mail compartment in place of the forward cockpit. It is a remarkable companion plane to the world-famous line of Buhl Airsedans . . . the Senior Airsedan, an 8-place, dual-control sesqui-winged cabin plane, Wasp, Hornet or Cyclone powered and the Standard Airsedan, a 6-place replica of the Senior.

BUHL AIRCRAFT COMPANY
MARYSVILLE -:- -:- MICHIGAN

The Standard Airsedan

These distinguished planes surely merit the very careful consideration of everyone interested in flying, whether it be for fun or fame or fortune. May we send you a photographically illustrated brochure that contains their specifications?



A Buhl Standard Airsedan is the only plane that has ever completed a non-stop refueling flight across the continent and return.

Buhl

Off the Record *Continued*

195,000,000 nails. In the Illinois Manufacturers' Association she is pointed to with pride. And for those who fear that here they have encountered nothing but a hard- (not soft-) headed business woman, it is a comfort to learn that she has never forsaken her lifelong penchant for painting in oils.

The other, the daughter of the Polish writer, is Mrs. Sophia Delavan Cowles. Of her first husband little is known; her second, whom she married in 1906, was a Mr. Frederick Delavan, whom she met one day when he called on her parents to sell them paintings. With a total capital of $65 they decided to go in business together, and since it was Sophia who was the more alert character, they chose the hair foundation business, a not unprofitable venture since pompadours were then very much the fashion. In 1912, when hair foundations began to look as ridiculous as they sound, Mrs. Cowles with a facile gesture switched to the manufacture of dolls' wigs. When she was divorced shortly thereafter, she had built a business of $750,000 yearly with little assistance from her husband other than bookkeeping.

Her decision at that time to retire from business life was upset by her meeting and marrying Mr. John Taylor Cowles, two years an octogenarian and the inventor of the fire escape counterbalance. It was unfortunate, if she really wanted rest, that she ever visited his factory, because its inefficiency so appalled her that she promptly decided to run it herself. When Mr. Cowles died two years ago, she was and had been for some time in complete charge.

Each morning at 7:30 Mrs. Cowles now holds a conference with her foremen at the factory. The foremen one hour later are chauffeured to their regular places of labor, and Mrs. Cowles disappears to an office which she keeps grimly locked and from which she is in constant and mysterious communication with architects and builders. She is extremely popular with union labor, always an advantage, and the Cowles Fire Escape Works of Chicago is undoubtedly that city's outstanding company of its line. Her fire escapes grace such buildings as the Chicago Board of Trade, the Bismarck, Drake, and Seneca hotels, the Palmolive Building, and many another. She is less often to be seen, however, clambering on one of these fire escapes than on new ones under construction.

Alaskan Argosy

LAST fall Captain John Backland Jr. almost lost his ship. Young, sturdy, square-jawed, he restlessly paced the deck of his four-masted schooner, the *C. S. Holmes*, frozen tight in the pack ice off Alaska. Some cases of dynamite saved the day, but it was a close shave. Captain Backland, at twenty-six, captain of his own ship and sole proprietor of the Midnight Sun Trading Company, had met and conquered another crisis in his business career. For twenty years his father had sailed north each spring with a strange cargo of imitation silks, cheap trinkets, lard, gaudy blankets and had brought back in the fall a hold crammed with furs. Backland Jr. went along too, as ordinary seaman and finally as first mate. It took him six years to get through the University of Washington because he spent every spring term in the Arctic. When his father died, young Backland gave up all thoughts of Oxford and took the responsibility for the annual voyage on his broad shoulders. Two years ago he made his first trip as captain. His route was the one his father followed for twenty years in the *C. S. Holmes:* straight north from Seattle through Bering Strait between Alaska and Siberia, and then a series of stops at tiny, desolate specks of settlements along the coast of northern Alaska—Cape Prince of Wales, Shishmaref, Kotzebue, Point Hope, Wainwright, and, finally, Point Barrow. The captain gets back early enough each fall to see the important football games. He passes the winter in leisure, sometimes in California, sometimes at home in Seattle, where he debates with his sister such questions as whether she is to have an airplane or he is to get himself a Rolls. It will not be long before Captain Backland will be voyaging to the North once more on the highly profitable business of the Midnight Sun Trading Company.

Does today's trend toward GROUP BANKING hold a lesson for the national advertiser?

The ideas of the people who read your message are changing all the time

Last year 643 banks closed their doors in the faces of dismayed depositors; 487 in 1928; more than 5,000 in the past ten years.

Most of these tragic failures resulted from one fundamental cause. Business and living conditions had changed, but banking had stayed the same. Too many banks had fallen out of step with the modern tempo. Too many bankers had kept on doing things in the same old way.

But "the same old way" is being rapidly displaced. *Group banking** has been devised; a new means has been found to stem the rising tide of failures. Under this innovation everyone benefits, small banks even more than large. There is more profit for stockholders, greater strength for depositors and greatly increased service to the community.

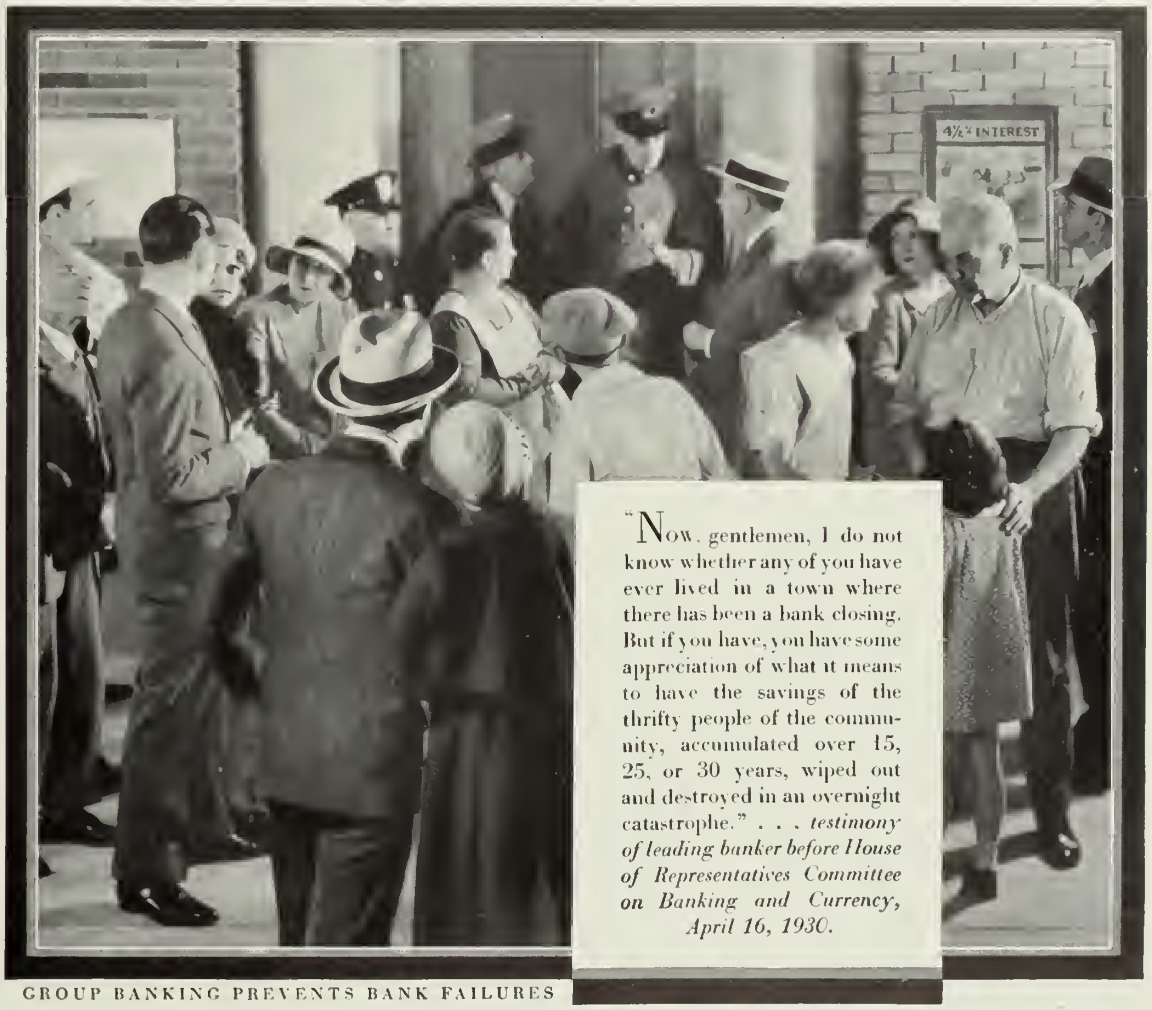
In two years the idea has spread rapidly. Banks in the far west, in the northwest and in the south have been quick to adopt it. So have banks in New York and New England. In every section of the country its advantages have been seen and reached for.

New Methods Needed in Advertising, Too

When bankers, the most conservative of business men, begin to make sweeping changes in their methods, it's time for the advertiser to sit up and take notice.

Think back over your own procedure of the last few years. Have you and your agency been content to go on operating in the "same old way?" How long has it been since the introduction of any ideas fundamentally new?

New methods and new ideas are more apt to come from a new agency, especially one which has been organized on the basis of industry's latest requirements. Dyer-Enzinger is such an agency. A merger of an eastern and a western company, it is practically a new agency, with a staff of seasoned advertising men of the new school, in tune with the new order of things, prepared to render an up-to-the-minute advertising service.



"Now, gentlemen, I do not know whether any of you have ever lived in a town where there has been a bank closing. But if you have, you have some appreciation of what it means to have the savings of the thrifty people of the community, accumulated over 15, 25, or 30 years, wiped out and destroyed in an overnight catastrophe." . . . *testimony of leading banker before House of Representatives Committee on Banking and Currency, April 16, 1930.*

GROUP BANKING PREVENTS BANK FAILURES

Testing Copy in Advance Multiplies Value of Space

In each department of our work, you will find features which all agencies must eventually adopt if their clients are to meet the severe competitive conditions of today.

At every point in our procedure we try to do away with guesswork. The method of handling copy is an example. Before investing one dollar of our clients' money in expensive art work, plates or advertising pages, we determine *by test* the advertisements which are most likely to make sales at a profit. Even if we took no other precaution to increase the effectiveness of your expenditure, this one alone would multiply the value of every inch of space on your schedule.

We have some interesting *ideas* to offer. One for cigars or cigarettes. One for laxatives. One for a company whose product or service contributes to public health, and another for the institution whose welfare touches upon improvement in the conduct of business routine.

A letter from you will be treated confidentially and will bring a call from that individual in our organization best suited to discuss your aims and ambitions.

DYER-ENZINGER COMPANY, INC.

New York · Chicago · Milwaukee

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*Recently, one of the most important of the banking groups, the Wisconsin Bankshares Corporation, became a client of ours. Observation of new methods in banking prompted the above remarks on advertising.

—and he named it

"LOCKHEED MOUNTAIN"

It stands at the bottom of the world, majestic and perennially snow-covered . . . Captain Sir George Hubert Wilkins was the first man ever to sight this Antarctic peak and he named it "Lockheed Mountain"—in honor of the ship from which he discovered it.

Captain Wilkins chose a Lockheed for his polar expeditions by air because he knew "it was the finest ship available." He flew it over the top of the world on a 2,200-mile non-stop flight from Point Barrow, Alaska, to Spitzbergen. Later he took it, as one of two Lockheeds, to the Antarctic.

Captain Wilkins—pioneer explorer of both the Arctic and Antarctic by air—and the Lockheed which he used in his history-making polar flights

Captain Wilkins' Lockheeds were flown on wheels, skis and pontoons — in temperatures which ranged from 110 degrees above zero to 54 degrees below! And today Captain Wilkins' original Lockheed, the second ever built, is still in active service!

The record of Captain Wilkins' ship conclusively proves the stamina, safety—*and the speed*—that are built into *every* Lockheed.

DETROIT AIRCRAFT
LOCKHEED
VEGA

DETROIT AIRCRAFT

FORT AND CAMPAU STREETS, DETROIT

CHANIN BLDG., NEW YORK :: ROOSEVELT BLDG., LOS ANGELES

LOCKHEED AIRCRAFT CORPORATION
EASTMAN AIRCRAFT CORPORATION
RYAN AIRCRAFT CORPORATION
AIRCRAFT PARTS COMPANY, INCORPORATED
PARKS AIR COLLEGE, INCORPORATED
PARKS AIRCRAFT CORPORATION
BLACKBURN AIRCRAFT CORPORATION
AIRCRAFT DEVELOPMENT CORPORATION
MARINE AIRCRAFT CORPORATION
GROSSE ILE AIRPORT, INCORPORATED
GLIDERS, INCORPORATED
DETROIT AIRCRAFT EXPORT CORPORATION

Statistics

IN the jerkwater station of North Redwood, Minnesota, a twenty-year-old boy, its station master, breaks open an unclaimed crate of watches, shouts enthusiastically, "Come and buy!" Town loungers, travelers, railroad men crowd into the station at his call and, in between selling tickets, he sells them watch after watch. This is the year 1886. It marks the start of Sears, Roebuck & Co., which did in 1929 a $443,452,640 business.

Young Dick set up shop with no debts, no liabilities, no expenditures, and a stock that looked magnificent to his eyes—500 odd watches thrown into his lap, a gift from fate, a dazzling promise of fortune that was more than the usual rainbow, a promise that turned into a ledger of long figures.

• • •

Forty-four years ago Sears' office was the waste space in a ticket collector's cage; today the mail order houses, retail stores, and warehouses of Sears, Roebuck & Co. cover 567 acres of floor space and last year's sale crop averaged about $782,103 an acre. Then he sat up at night writing letters in long hand to his railroad friends telling of his merchandise; today approximately 75,000,000 catalogues and other pieces of direct mail advertising are produced annually and distributed by the company. Then he was owner, president, salesman, and counter clerk in one; now there are 38,405 employees on the pay roll and the company adds 4.5 employees every day, including Sundays and holidays, and has done so for the last ten years. Then he had just one article of merchandise; now 46,000 different articles are sold—home barber outfits and aviators' equipment, lip sticks and Colonial clocks, horse blankets and bath salts, veterinary instruments and pianos, hair pins and the works of Havelock Ellis, Elinor Glyn, Walter Pater, James Oliver Curwood.

• • •

And in its prices it is equally catholic. Sears, Roebuck & Co. delivers, postage prepaid, a hank of a thousand beads for a nickel or a diamond ring for $520 or a complete house for $18,000.

• • •

Annually Sears, Roebuck uses 5,000,000 pounds of wrapping paper and, to tie the packages thus wrapped, 550,000 pounds of twine and 550,000 pounds of tube rope. If this paper were converted into one strip a foot wide, the strip would wrap around the world twice and if the twine and the rope were tied end to end, it would circle it two and a half times. Annually it sells 25,000,000 rolls of wall paper, which makes it the largest retail distributor of wall paper in the world.

• • •

For this flood, the city post office is not adequate. To handle its goods a special mail service terminal is maintained by the government at the Sears, Roebuck Chicago mail order plant. In 1929, this terminal handled 13,375,636 pieces of parcel post, which meant that approximately 3,500 sacks were dispatched in the final "tie out" each day, an average of 100 a minute hurtling through the air from mail tables to chutes, from chutes to trains.

A second terminal is operated by the government at the Sears, Roebuck Philadelphia plant. And these two terminals, in the volume of parcel post handled, rank sixth and eighth on the list of the first ten railway mail service terminals.

The postage bill is staggering. For the year 1929 it was $11,256,943, a little less than twice as much as the cost of manufacturing all the stamps and stamped paper produced for the government during the last fiscal year. Or, putting it in still another way, it was 1.8 per cent of the total postage bill of the United States.

A total of 16,989 auto truck loads of parcel post was delivered from the Chicago mail order plant to various depots within the city in the last year.

• • • *One of the Greatest Pleasures in Life!* • • •

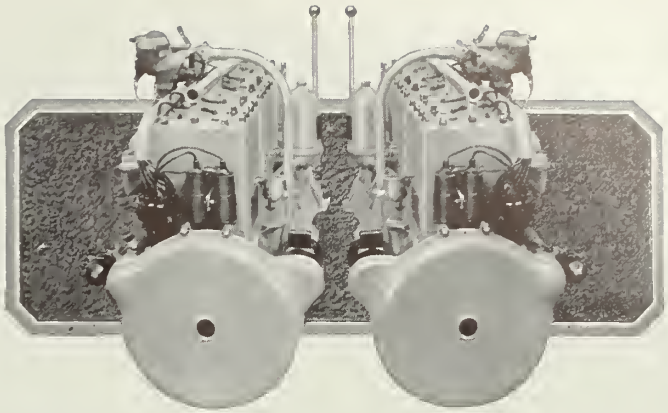
CRUISABOUTING is one of the greatest pleasures in life. A Cruisabout is big enough to comfortably take you and your friends or family wherever you want to go—small enough to be purchased, operated and maintained at lowest possible cost.

There are three Cruisabout models to meet every boating requirement. The Single Cabin Cruisabout with berths for four and 13 mile speed sells for $3585. The Double Cabin Cruisabout with a private stateroom and 13 mile speed sells for $4185 and the Day Cruisabout with a magnificent cockpit 17 feet long and 18 mile speed sells for $3685. Speeds up to 26 miles an hour can be had at very slight additional cost.

Write for the Cruisabout booklet "N" illustrating and describing these magnificent yachts. Cruisabouts are displayed by Bruns-Kimball & Co., 5th Ave. & 15th St., New York City.

RICHARDSON BOAT COMPANY, INC.
456 Sweeney Street, North Tonawanda, N. Y.

Richardson Cruisabouts



A. C. F.*
BANFIELD
CHRIS-CRAFT*
CORSAIR "36"
DART*
GAR WOOD "40"
HACKERCRAFT*
KING SEA-SKIFFS
KYLE "43"
MATTHEWS*
MINETT-SHIELDS
ROBINSON SEA GULL
SEA LYON "40"*
STEPHENS
SUNBEAM "46"
WHEELER "PLAYMATES"*
Foreign
BRITISH POWER BOATS
OSBORNE-CRAFT-- *England*
CLAUS CRAFT--*Germany*
CHANTIERS NAVAL EXCELSIOR
DESPUJOLS--*France*
ORTHOLAN--*Argentine*
*Optional

DEPENDABLE POWER

The wide acceptance of SCRIPPS motors by so many prominent builders of standardized craft who offer them as standard or optional equipment is significant of SCRIPPS unfailing dependability.

Fifteen models—15 to 200 Horse Power
High speed and medium duty.

Interesting literature will be mailed upon request.

SCRIPPS MOTOR CO., 5844 LINCOLN AVENUE, DETROIT, MICH.

SCRIPPS

• THE MOTOR THAT CROSSED THE ATLANTIC •

BURLINGA
PUBLIC
LIB.

Hackercraft . . .

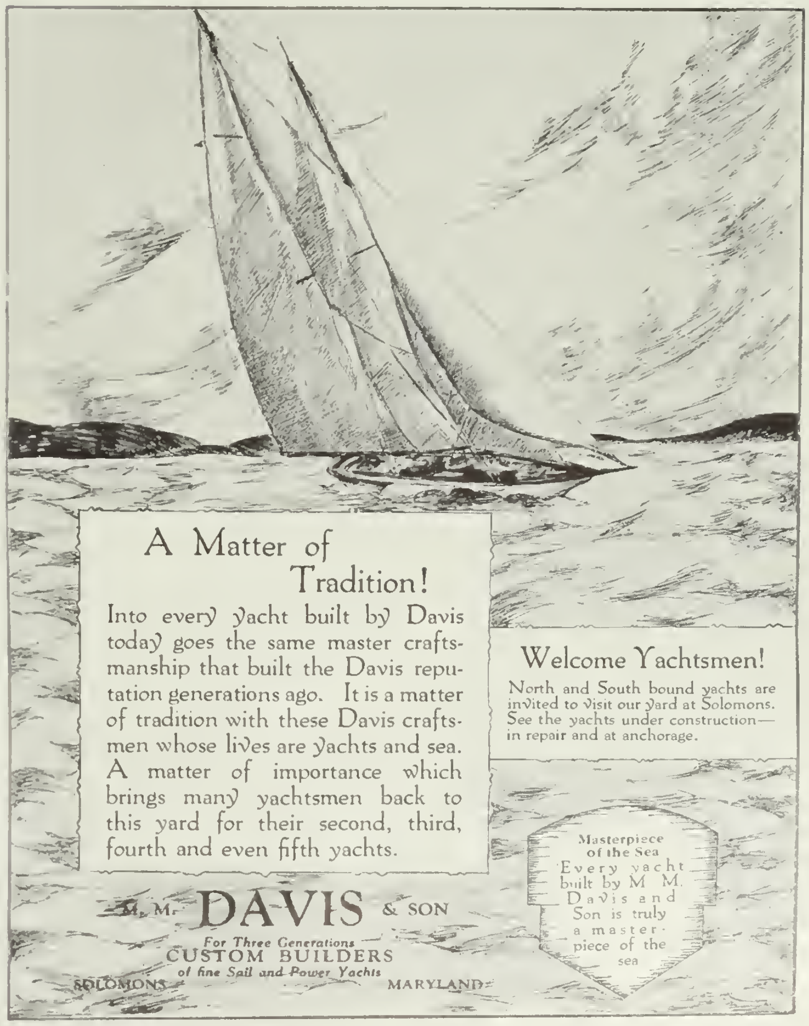
By All Odds America's Fastest Speed Boats

SEAWORTHY

The distinguished grace, the beauty of line, smoothness of contour and the lithe, keen speeds of Hackercraft are features that cannot be disguised. But tear a Hackercraft to pieces literally or figuratively! What do you find? The most impressive array of specifications ever used on any stock runabout! To begin with, genuine Honduras mahogany is used throughout and reinforced by white oak keel, stem, chines and framing. Genuine leather accounts for the beautifully groomed appearance of its cockpits. A superior number of main frames and intermediates close set to reinforce the hull above and below the chine are used. Double planked, diagonally laid $\frac{3}{4}$-inch bottoms, copper riveted to intermediates and small frames and screw fastened besides to insure the utmost ruggedness. Hackercraft also have collision bulkheads. Despite these and many other impressive advantages and additions to their design Hackercraft are by all odds the fastest boats of their kind afloat—the safest to drive—the keenest to own. Of course we'll send our catalog. Or see these boats on display.

HACKER BOAT COMPANY
548 River Drive Mt. Clemens, Mich.

HACKERCRAFT
AMERICA'S FASTEST SPEED BOATS



A Matter of Tradition!

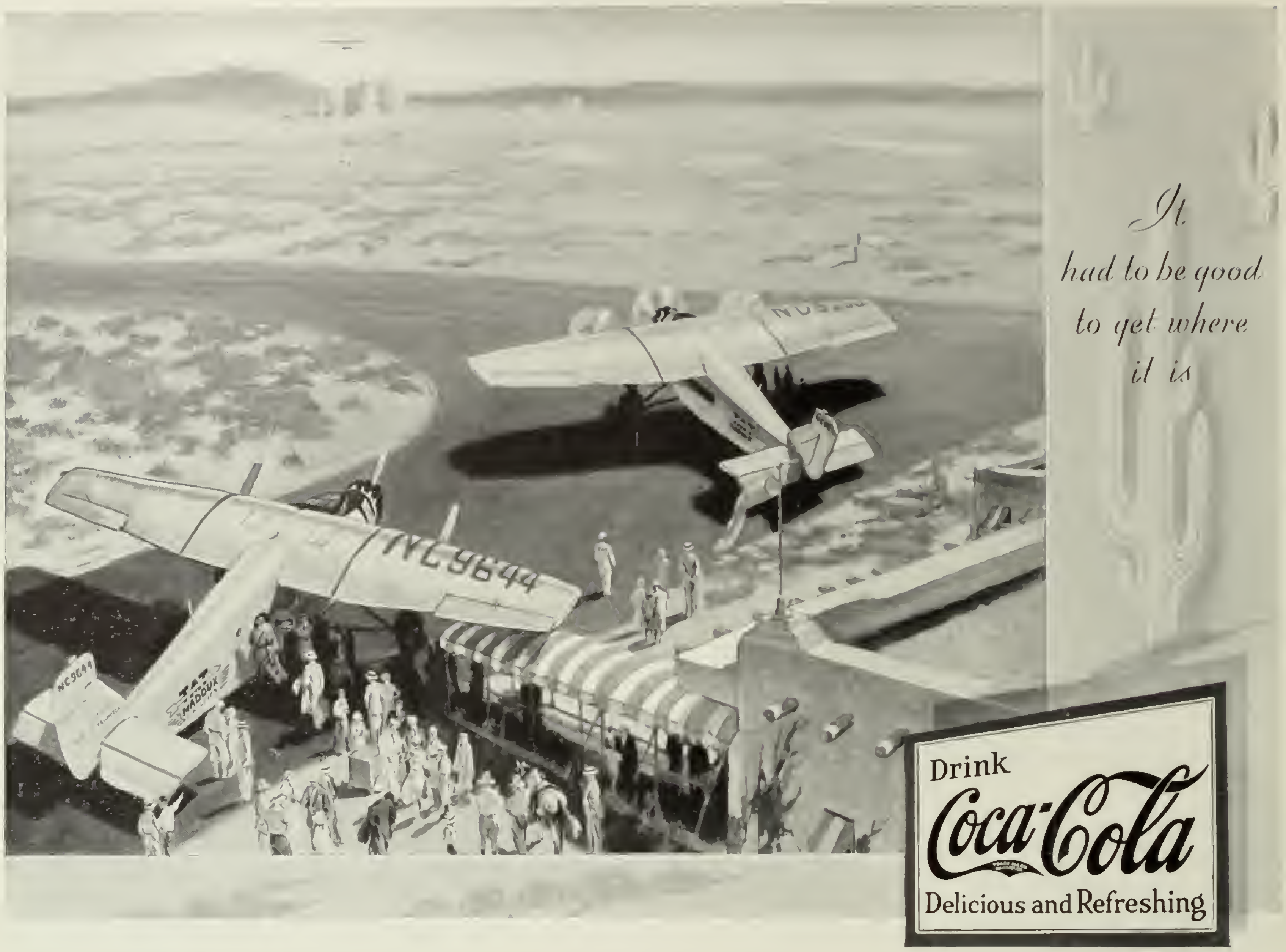
Into every yacht built by Davis today goes the same master craftsmanship that built the Davis reputation generations ago. It is a matter of tradition with these Davis craftsmen whose lives are yachts and sea. A matter of importance which brings many yachtsmen back to this yard for their second, third, fourth and even fifth yachts.

Welcome Yachtsmen!

North and South bound yachts are invited to visit our yard at Solomons. See the yachts under construction—in repair and at anchorage.

Masterpiece of the Sea
Every yacht built by M. M. Davis and Son is truly a masterpiece of the sea

M. M. DAVIS & SON
For Three Generations
CUSTOM BUILDERS
of fine Sail and Power Yachts
SOLOMONS MARYLAND



TODAY
even in the desert they stop for *the pause that refreshes*

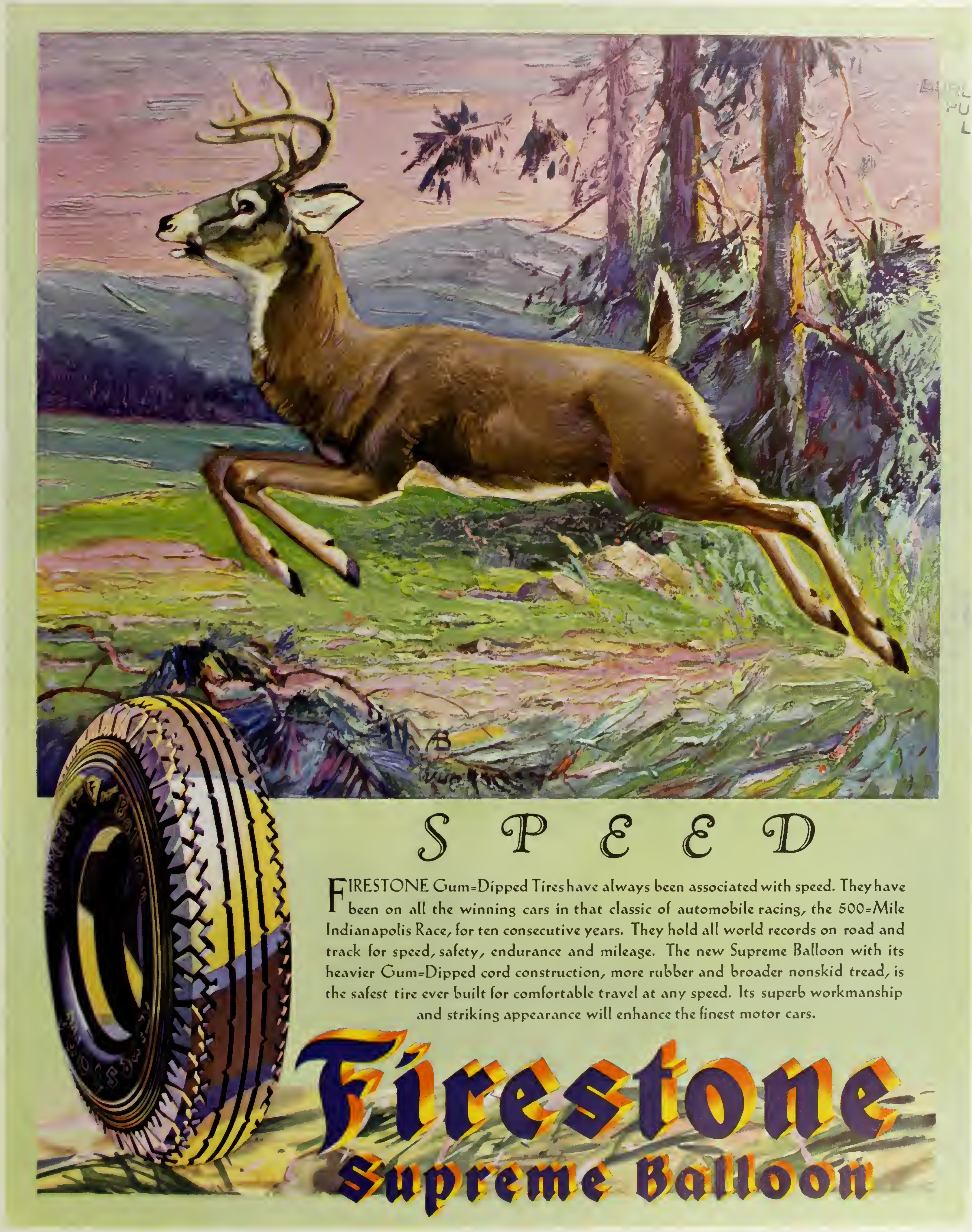
AT KINGMAN, hot-spot of the Arizona desert, the big T. A. T. monoplane swoops to earth. Out come the passengers—to stretch, relax and find *the pause that refreshes*. The adobe station bakes in desert sunshine. But quickly they move inside—to inviting shade and a big ice-box filled with Coca-Cola. What a place for such a drink! » » And yet nobody is surprised. They've found it everywhere across the continent . . . at Thirty-fourth Street and Seventh Avenue, New York; at Columbus, Indianapolis, St. Louis, Kansas City, Wichita, Waynoka, Clovis, Albuquerque, Winslow. And they'll find it at the Grand Central Air Terminal, Los Angeles. » » All the big passenger planes come down at intervals to let passengers put their feet on the ground. And ice-cold Coca-Cola, a-tingle with delicious taste and a cool after-sense of refreshment, is always there.

THE BEST SERVED DRINK IN THE WORLD
A pure drink of natural flavors served ice-cold in its own glass and in its own bottle: The crystal-thin Coca-Cola glass that represents the best in soda fountain service. The distinctive Coca-Cola bottle you can always identify; it is sterilized, filled and sealed air-tight without the touch of human hands, insuring purity and wholesomeness. The Coca-Cola Company, Atlanta, Ga.

LISTEN IN ~~ Grantland Rice ~~ Famous Sports Champions ~~ Coca-Cola Orchestra ~~ Wed. 10:30 to 11 p. m. Eastern Daylight Saving Time ~~ Coast to Coast NBC Network.

NINE MILLION A DAY

BURLINGAME
PUBLIC
LIB.



S P E E D

FIRESTONE Gum-Dipped Tires have always been associated with speed. They have been on all the winning cars in that classic of automobile racing, the 500-Mile Indianapolis Race, for ten consecutive years. They hold all world records on road and track for speed, safety, endurance and mileage. The new Supreme Balloon with its heavier Gum-Dipped cord construction, more rubber and broader nonskid tread, is the safest tire ever built for comfortable travel at any speed. Its superb workmanship and striking appearance will enhance the finest motor cars.

Firestone
Supreme Balloon

New blade resists rust!

U.S.A.
D OVER
MADE IN USA
U.S. PAT. No 1,328,024
OTHER PATENTS PENDING
10 BLADES
NEW
Gillette
BLADE
PATENTS PENDING
King C. Gillette
Gillette
NEW Gillette BLADE

$1.00 for ten; 50c for five. *The New Gillette Blades in the new green packet.*

A shake is all the drying this razor needs

NOW you won't feel guilty if you put your razor away without wiping it off after shaving—not if your razor is a New Gillette!

That last tedious step which every man hates—unscrewing the razor, taking out the blade, wiping all the parts—is banished forever by the New rust-resisting Gillette Blade, which needs no drying.

And that's only one reason for the tremendous demand for the New Gillette. It can't "pull"—thanks to the reinforced corners of the new razor cap, and the cut-out corners of the new blade. The channel guard, the new rounded-back guard teeth—these are a few of the remarkable features of the New Gillette Shave.

Ten million men can already tell you here's the biggest bargain in shaving comfort ever offered—one dollar for the New Gillette Razor in a handsome case with one New Gillette Blade. Additional new blades are priced the same as the old—one dollar for ten and fifty cents for five, in the new green packet. Drop in at your dealer's today.

The New De Luxe Razor and Blade

Both are now available at the better shops. The Gillette New De Luxe Razor has all the sweeping improvements of the popular-priced razor, plus luxury in heft, in precise machining and in delicate balance. Eight handsome styles range in price from $5.00 to $75.00.

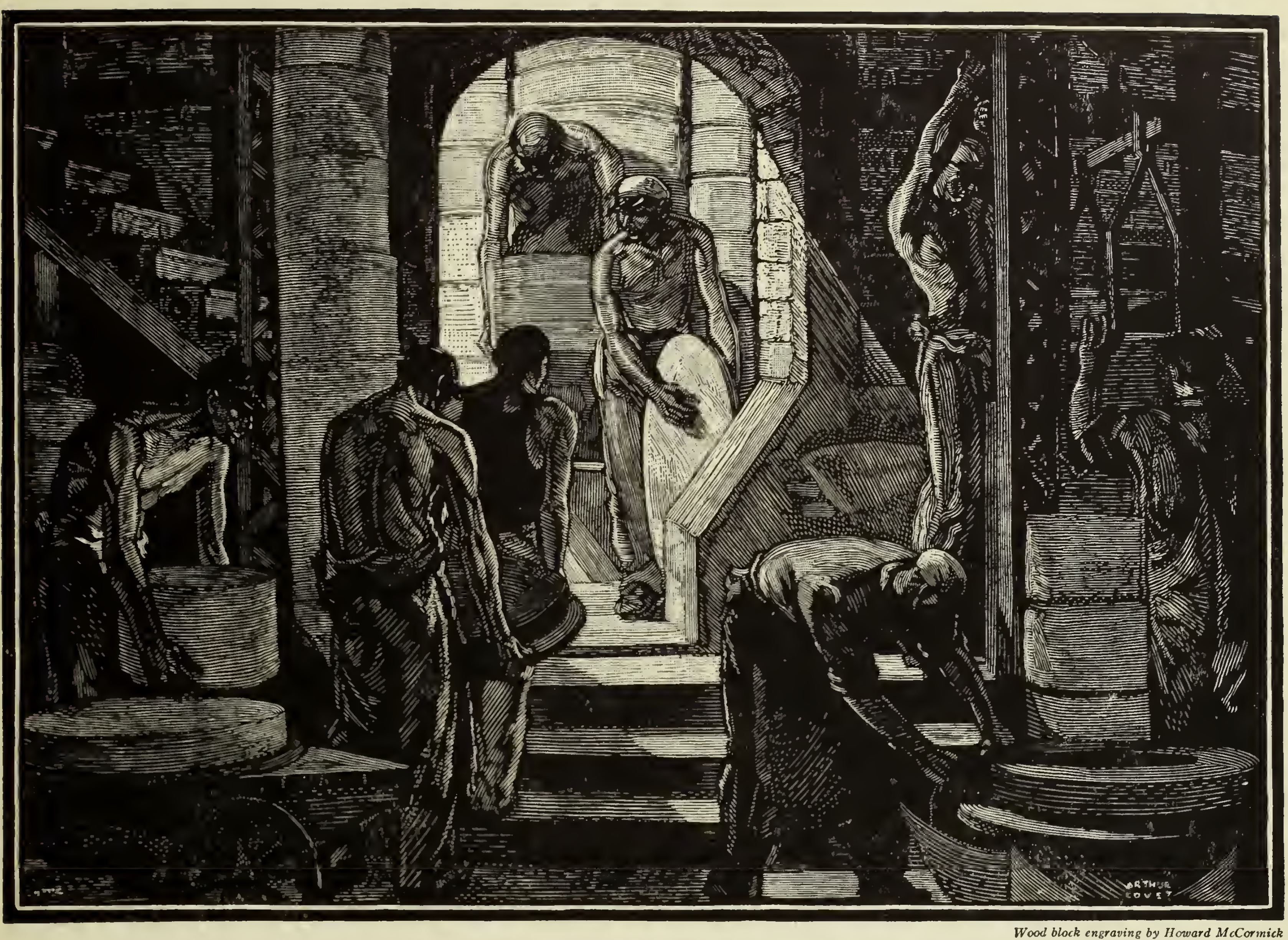
And every De Luxe set includes ten Gillette New De Luxe Blades of Patented Kro-man steel, which combine rust-resistance and the ability to hold an exquisitely keen edge. They fit any Gillette Razor—and are available at the better shops at $2.00 for ten.

TRADE **Gillette** MARK

GILLETTE SAFETY RAZOR CO., BOSTON, U. S. A.

The New Gillette Shave

BURLINGAME
PUBLIC
LIB.



Wood block engraving by Howard McCormick
from Mural by Arthur Covey

HEAT, TERRIFIC HEAT, and the electric furnaces give us abrasives—hard, sharp, tough. More heat, through the medium of huge kilns, scientifically applied and controlled, bonds the abrasive into Grinding Wheels, Refractories, and Floor and Stair Tiles — all important in the progress of industry . . . .

Norton Company, Worcester, Mass.

NORTON

Grinding Wheels
Grinding and Lapping Machines
Abrasives for Polishing
Refractories
Pulpstones
Porous Plates
Floor and Stair Tile
Abrasive Aggregate

The New York Trust Company

Capital, Surplus and Undivided
Profits $47,000,000

DOMESTIC
and
FOREIGN BANKING
FACILITIES

Trust Services

Personal Services

100 BROADWAY
40TH STREET AND MADISON AVENUE
57TH STREET AND FIFTH AVENUE

$305,000 for 125 Million Impressions

[EXAMPLES OF THE EFFECT OF A FEE SYSTEM ON ADVERTISING PLANS]

$301,000 for 2500 Million Impressions

ADVERTISING copy is much admired today, whether it be a unique idea, a compelling piece of writing, a dramatic illustration, an electrifying headline, or a vivid use of type.

Space-buying, a less dramatic element, arouses less discussion, though as a matter of fact, the space-*plan* may be as important as the space-*content*.

One reason why space-buying is given relatively less consideration than other phases of advertising is because there may have developed a tendency to consider it more or less "mechanical"; because some advertisers and agencies may have fallen into the habit of adapting the methods of others.

We here present the space problems of two campaigns of equal size which raise primary questions bearing on the productive value of similar appropriations. Both campaigns were for drug products; the one, a class product selling to a maximum of 500,000 consumers; the other, a mass product used in 15 million homes. The principles however are equally applicable to other lines.

The class product is one year old, is used daily, is consumed at the rate of one unit or more per month, appeals primarily to consumers under 40 with incomes over $4,000, and is one of many competing items.

The mass product is thirty years old, is consumed at the rate of one unit or less per year, appeals primarily to consumers over 40, with incomes under $4,000, and is the leader in its field.

The 1930 sales-volume of each product, in the United States and Canada, is running about the same—not over 10% difference. The space appropriations do not vary 5%.

The following is an outline of the two space programs:

Class Product: Six half pages and two full pages in five magazines with a circulation of 12 million (a total of 96 million advertising impressions) . . . eight pages in seven magazines with a circulation of 4 million (32 million impressions) . . . the total number of advertisements (insertions *times* circulation) amounts to 128 million . . . a trade paper campaign of two-page and four-page units before and during the early stages of the consumer advertising . . . a sampling plan which produced 1,200,000 consumer inquiries.

BURLINGAME
PUBLIC
LIB.

Mass Product: Sixty-five insertions using 2-inch space in 350 newspapers with 30 million circulation, constituting the primary part of the schedule (1950 million advertising impressions) . . . in addition 15 insertions of 8-inch space in these 350 papers with 30 million circulation (450 million impressions) . . . six small-space insertions in 20 magazines with 20 million circulation, (120 million impressions)—a total of more than 2500 million impressions. No trade papers, no sampling.

As will have been seen, these two space programs, for products with appropriation and sales volume about the same in each case, are as different as may well be imagined.

Both campaigns were analyzed and produced by the same people. Both have received the endorsement of authorities. Both have proven highly productive. *But this is the point: No formula was followed in either case. Each space problem was judged on its merits. Each plan was based on the job to be done.*

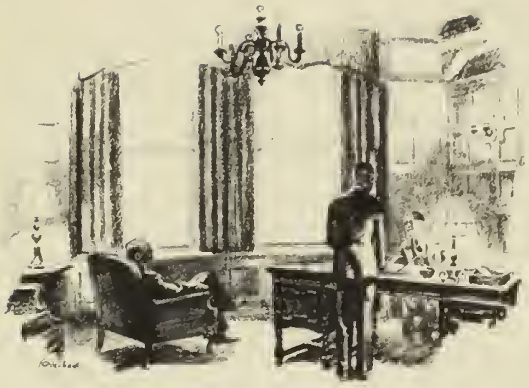
THIS unbiased method of buying space is the logical result of the unique fee system under which we work. There is no penalty on the agency for choosing one course of action as compared with another, for its profits are divorced from variations in the size or allocation of a client's appropriation. It is difficult to see how any other plan could better conduce to unbiased action.

Business executives and bankers interested in the effects of this policy on the economics of space buying, or in the reasons behind the choice of media in the two problems outlined above, are invited to write for information.

COWAN & DENGLER

ADVERTISING • MERCHANDISING • SALES COUNSEL

NEW YORK



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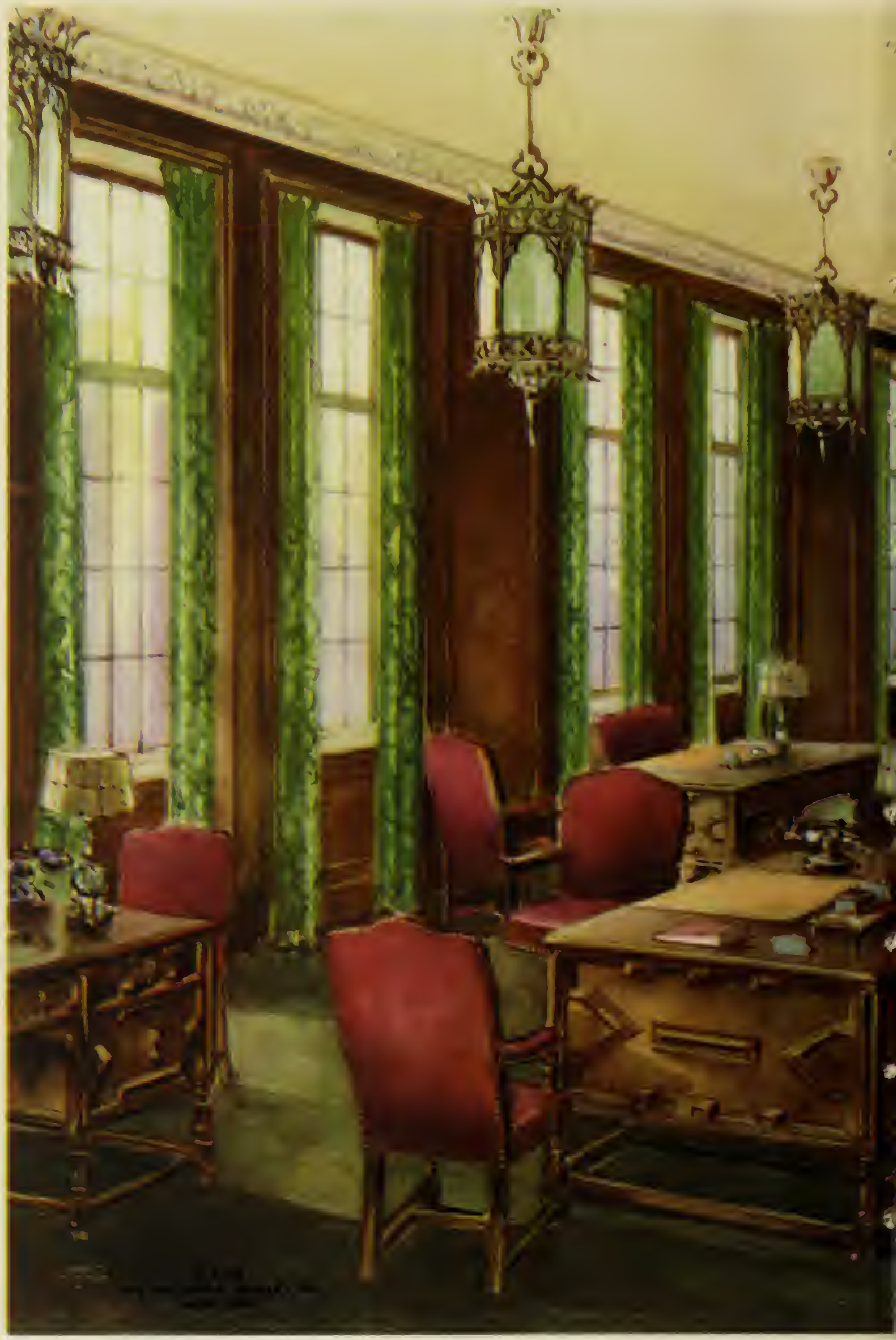

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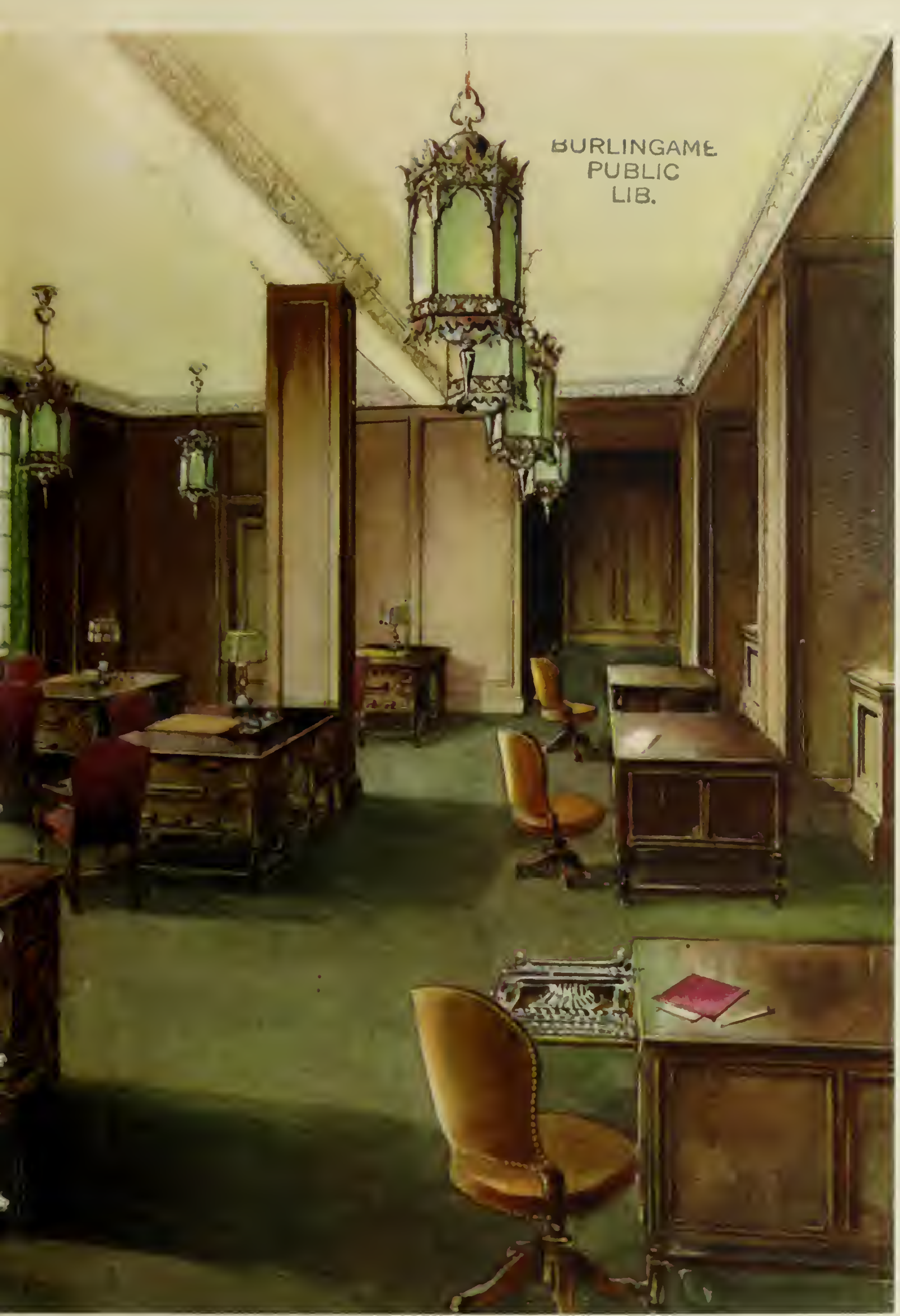

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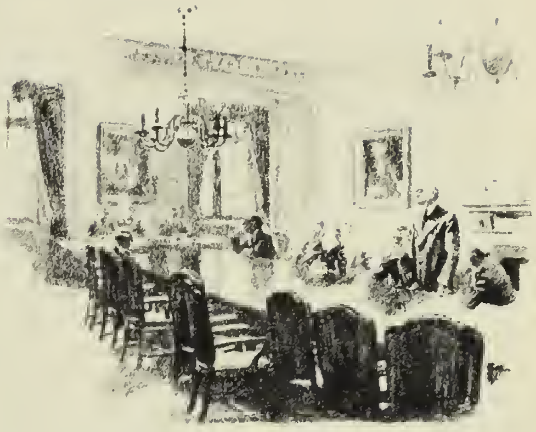

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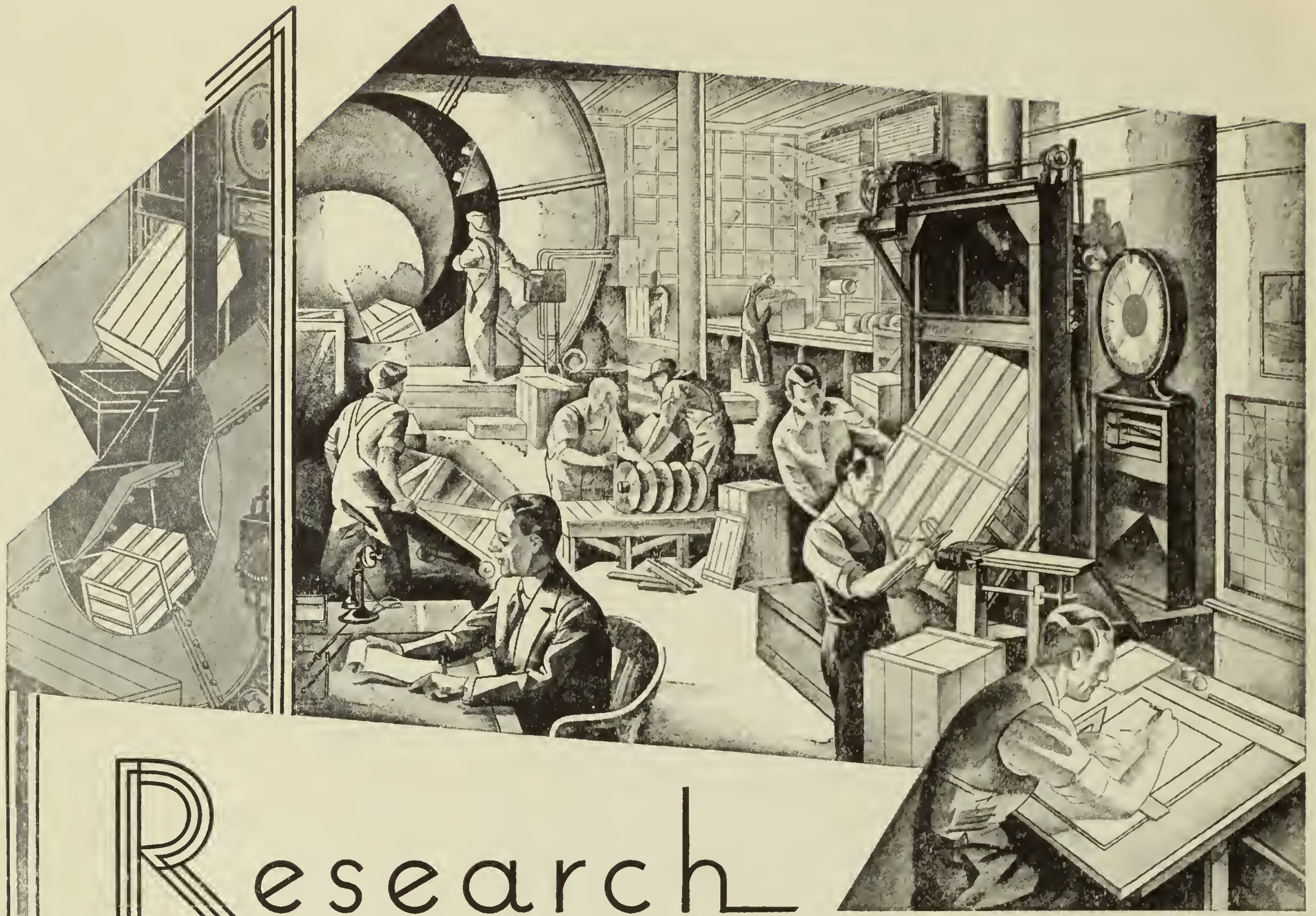

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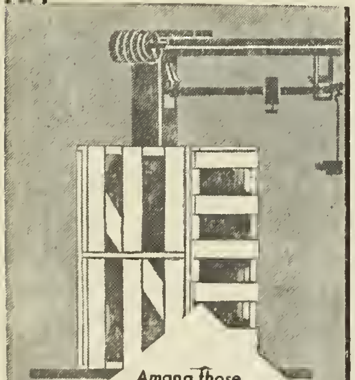

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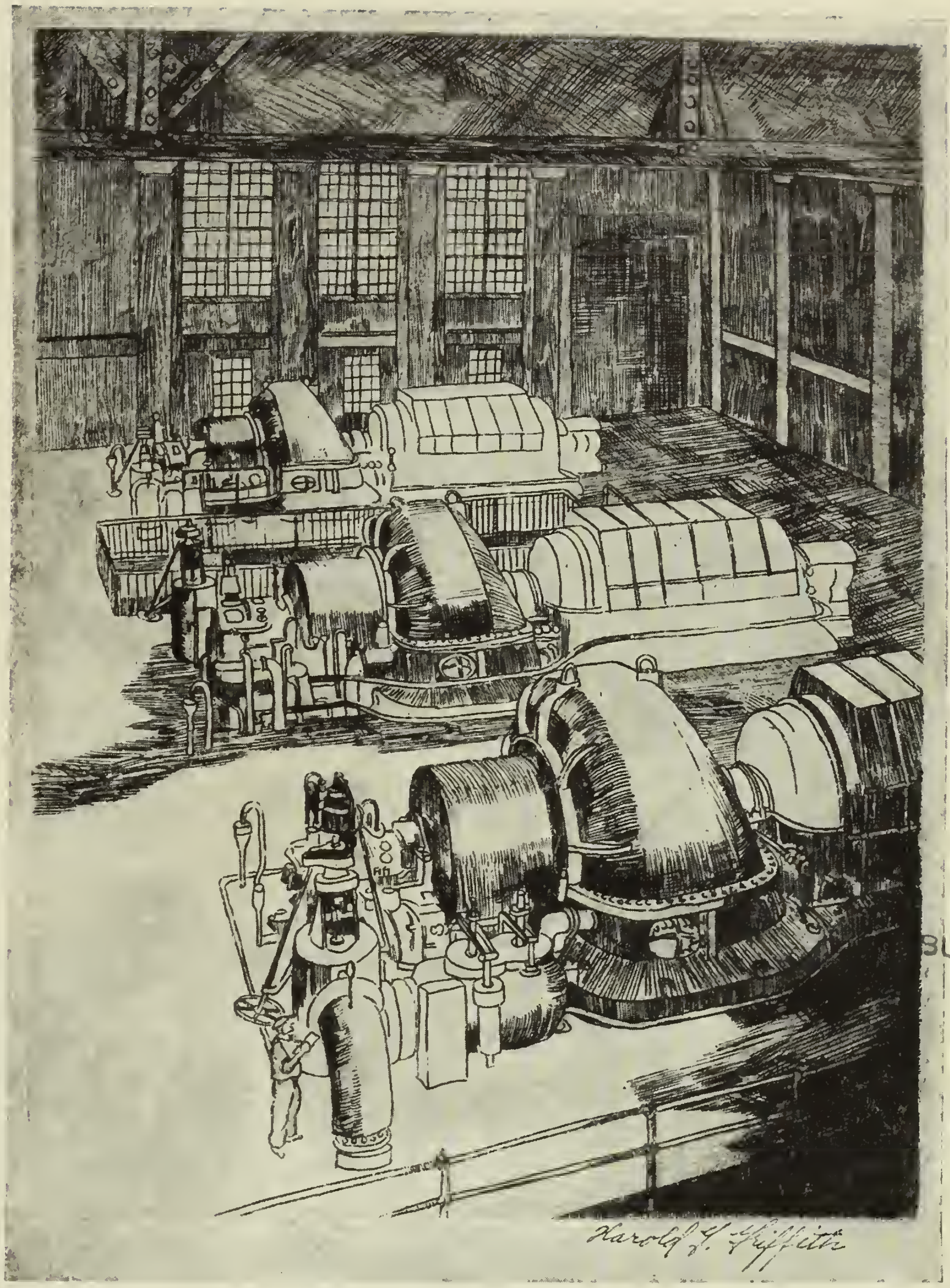

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POWER costs at Cleveland give local industries a distinct advantage over competitors in other cities. Three factors contribute to this result; proximity to coal fields; an unlimited supply of cold, clear water, and modern pulverized fuel plants, recognized as models the world over.

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ART IN INDUSTRY

In connection with the opening of their new first floor and the painting therefor of murals by Mr. Boardman Robinson, the Kaufmann Department Stores, Inc. of Pittsburgh, Pa. announces a prize essay contest on the subject "Art in Industry", the prize to be $1,000 and the prize-winning essay to be published in a forthcoming issue of FORTUNE.

Rules of the Contest

(1) The Contest is open to anyone (excluding employes of Kaufmann Department Stores, Inc. or Time, Inc.) who submits an essay of less than 5,000 words which deals with some particular phase of or with the general subject of Art in Industry.

(2) The contest will open Saturday, May 31, 1930. All manuscripts must be in the hands of the Art in Industry Contests Editor, Kaufmann Department Stores, Inc., Pittsburgh, Pa., by midnight, Saturday, January 31, 1931. Manuscripts received after January 31 will not be considered.

(3) The prize-winning essay will be published in a forthcoming issue of FORTUNE.

(4) The essays will be judged by a committee to be announced later.

(5) All manuscripts must be typewritten and have the name and address of the contestant in the upper left hand corner of each sheet of paper.

(6) Only one essay may be submitted by each contestant.

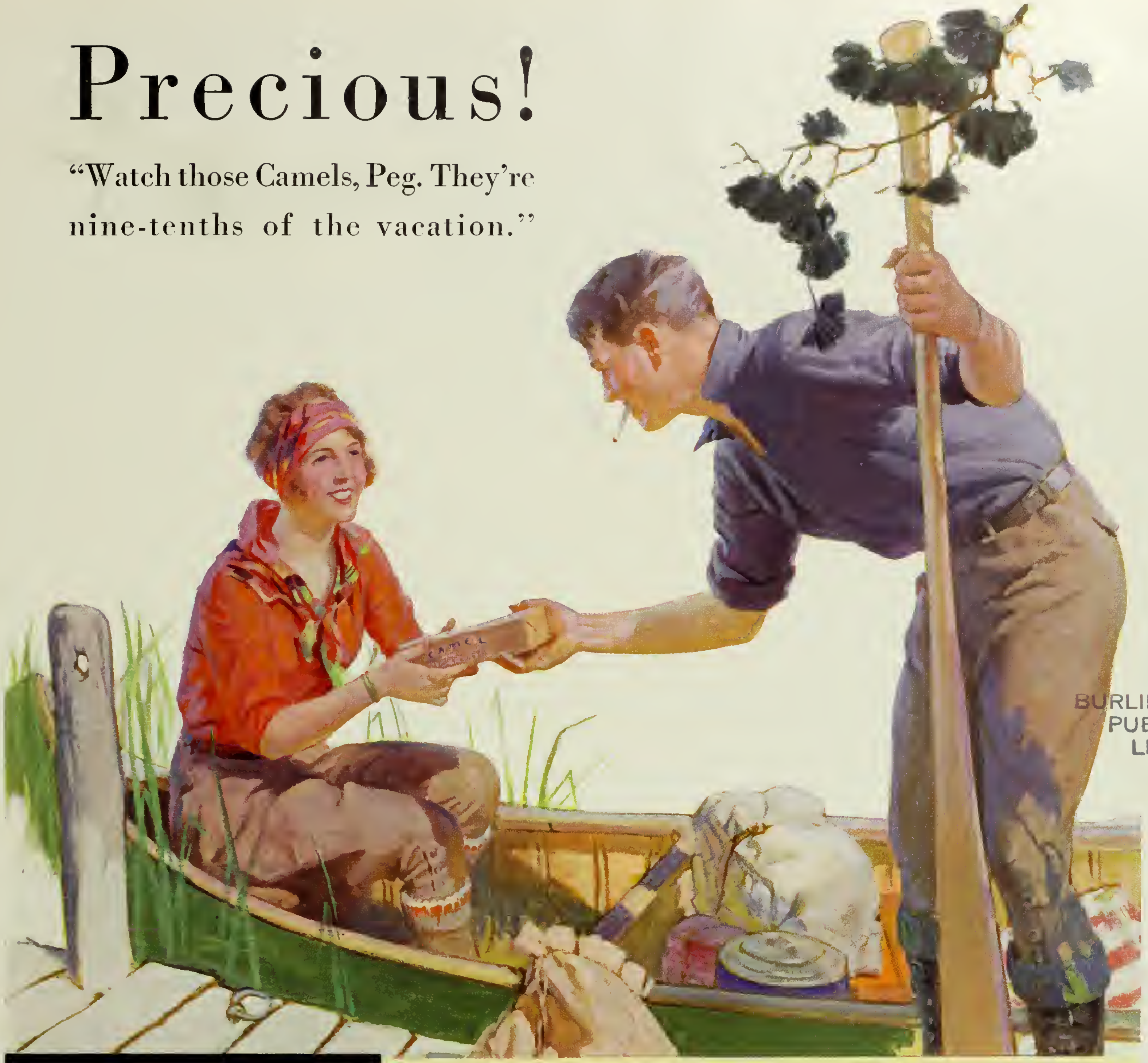
(7) Prize for the winning essay will be $1,000. In case of tie, each winner will receive the full amount of the prize. All information regarding the contest may be obtained from the Art in Industry Contests Editor, Kaufmann Department Stores, Inc., Pittsburgh, Pa.

(Signed)

Kaufmann Department Stores, Inc.
Fifth Avenue Pittsburgh

Precious!

"Watch those Camels, Peg. They're nine-tenths of the vacation."



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In its service to transportation Goodyear has accompanied the pioneering and adventuring mind not only on land and sea, but in the air.

It has been content to follow, to develop and perfect, where that has seemed the more serviceable part; but no less quick to lead, when that has seemed essential.

Thus, in its own special province of lighter-than-air transportation, it has made and is now making aerial history with Goodyear-built leviathans of the skies, while contributing signally also to the advancement of heavier-than-air craft.

As an example of the latter activity, Goodyear submits as its latest service to the airplane the new and revolutionary Goodyear Airwheel, destined to play a major part in the Age of Air Transport that now is here.

P. W. Litchfield
President

GOOD

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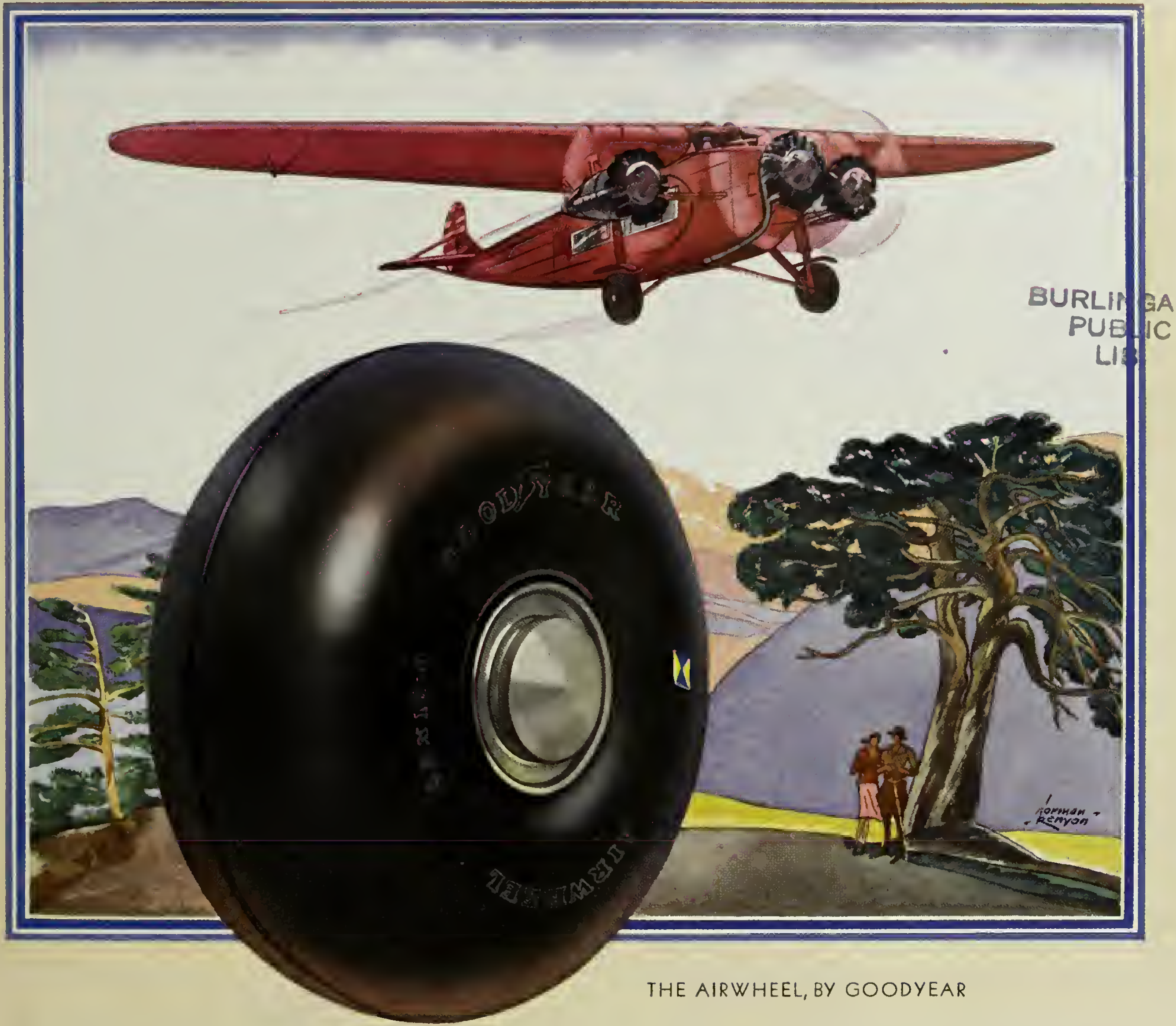

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YEAR

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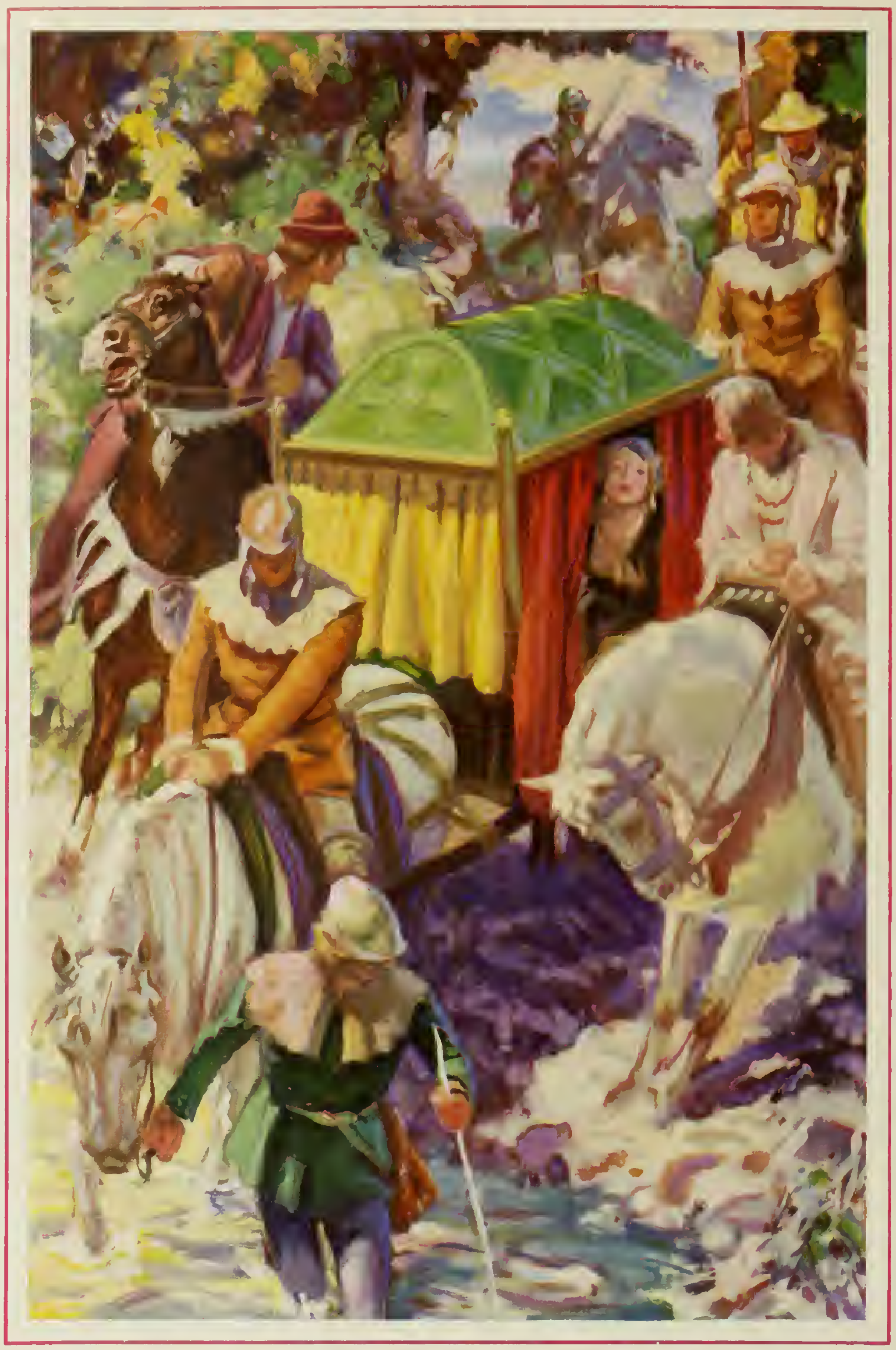

Luxury-loving ladies of Merrie England in Robin Hood's day journeyed forth in gayly draped and softly pillowed litters, borne by two stout horses and accompanied by men-at-arms

Packard engineering leadership — again impressively proved by the epochal development of the Diesel aircraft engine — has long rested on the distinguished and luxurious Packard Eight.

The same talent and resourcefulness which produced the Packard-Diesel — acknowledged the greatest advance in aircraft power in the history of aviation—developed the famous eight-in-line powerplant which has contributed so largely to Packard's supreme reputation in the fine car field.

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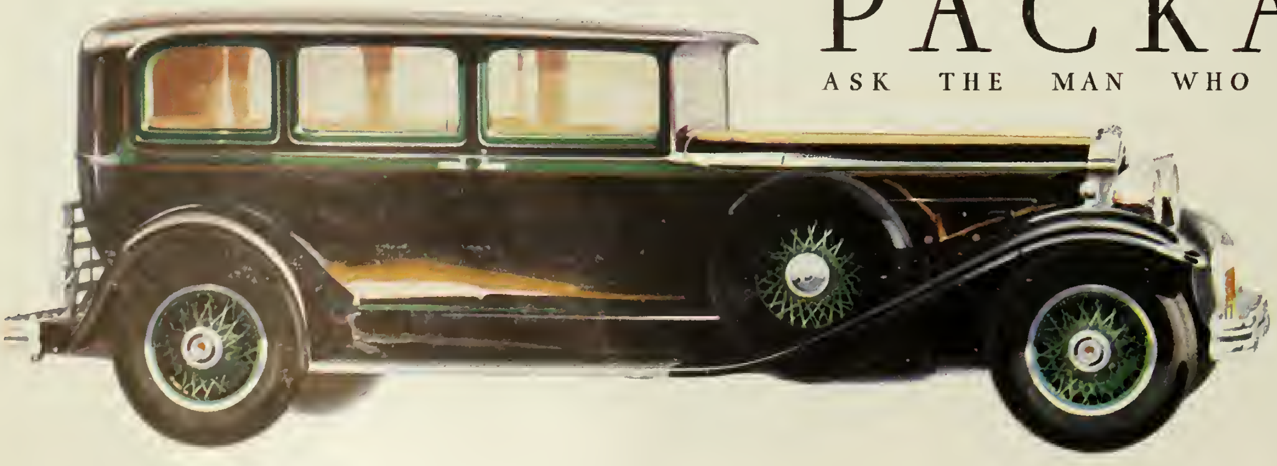
It is not accidental that the Packard Straight Eight is the largest selling car in the world in the field above $2,000.

Luxurious Transportation

PACKARD

ASK THE MAN WHO OWNS ONE



Fortune

Volume II
Number I

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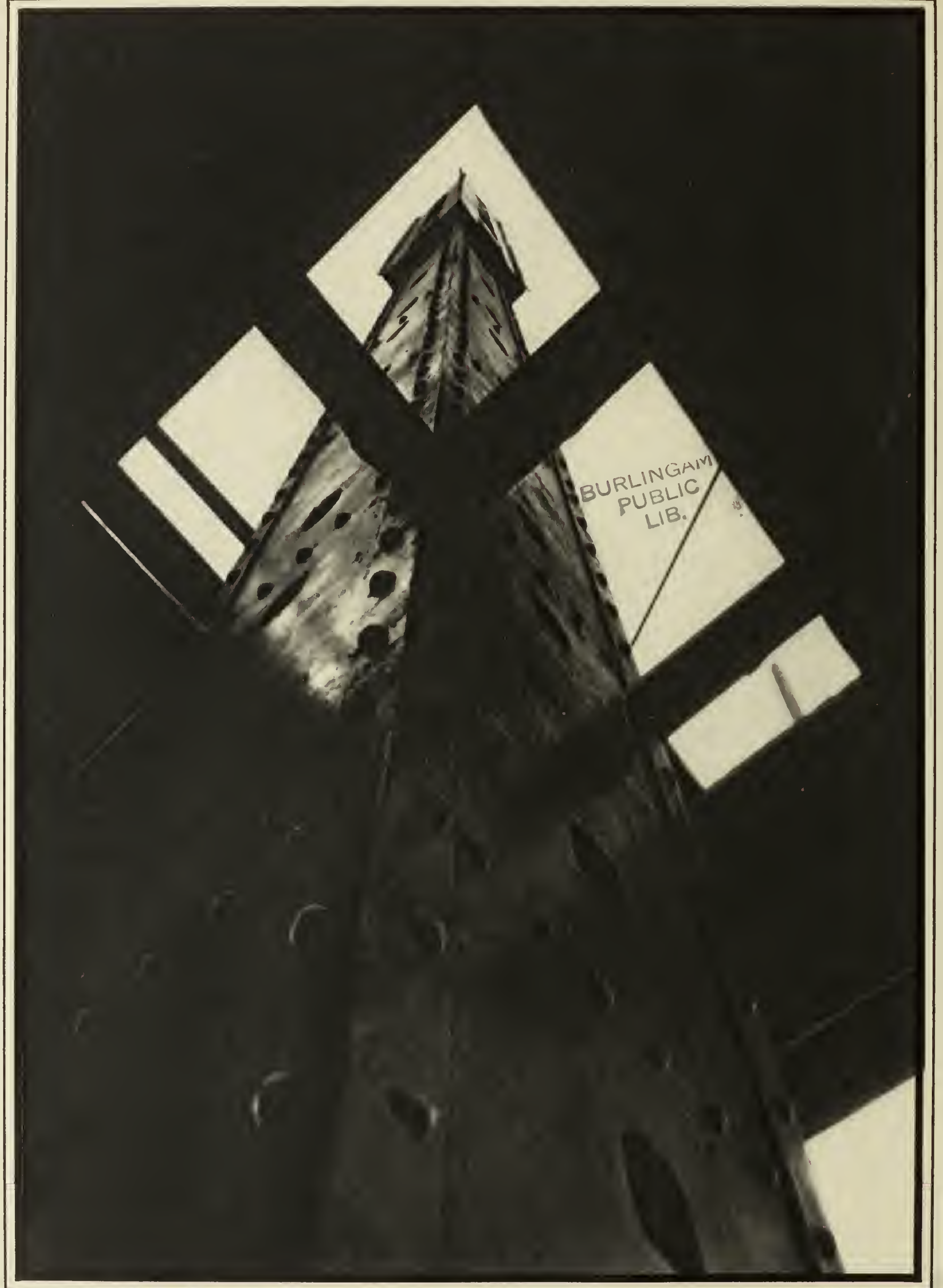

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Photograph by Margaret Bourke-White

TOWARD THE SUN

MASSIVE FINIAL OF THE CHRYSLER TOWER BEFORE ITS SHEATHING IN NIROSTA STEEL

Skyscrapers

The towers no man can build; of what metals they are made and under what limitations of law and use; why they can be built only where it is most dangerous to build them and in limits of time which are most difficult to keep . . .

(*Most Americans are proud of their skyscrapers. Most Americans are familiar with the silhouettes of famous towers. And if the crowds around the cellar holes are to be trusted, most Americans have also a lingering interest in the uses of dynamite and the facility of an Italian with a wheelbarrow. But the number of Americans who have any conception of the problems involved in the construction of these walls is not so great. It is true of industry, in general, that only a few men are really familiar with what everybody knows. But it is most strikingly true of the building industry.*

FORTUNE here begins a series of six articles on the skyscraper. These articles will consider the history of such structures from wrecking to roofing. They will concern themselves with the promotion and financing of great buildings; the activities of realtor and speculator and bond house and bank; the preparation of engineers' plans and the problem of steel; the preparation of architects' plans and the problems of zoning laws and owners' profits; the actual construction; the coördination of activities in the builders' office; the mechanical installations: elevators, ventilators, heating systems, signals. And they will attempt, ultimately, to consider the merits of the skyscraper as a tool of industry. The first article of the series presents the geography of the problem.)

ONE bright morning toward the end of September the window glass comes out of a row of brown front buildings on a side street, leaving a cracked shade to rattle in the air and a naked view of bedroom wall paper. A day later the walls are spilling down through dusty chutes into the truck bins. Then one day the buildings themselves have gone, and the cellar holes gape in the unaccustomed sun like lake bottoms in a dry time. A steam shovel slowly crawls across the curb and down a steep ramp to the pit. Derricks raise their solemn arms over the vanished houses. The breathless pumps begin. The drills sing like gigantic locusts in the granite ledge, break off with the shock of the detonations, begin again. Pneumatic hammers batter at the standing piles. And suddenly one warm day at the end of April a scrub of steel butts rises above the street. By May it is a dozen stories in the air, rigid and insubstantial and accurate. The derricks hoist themselves up from floor to floor. The rivet hammers rattle at the fragile steel. The loose wood planking of the floors is replaced by arches of cement. Pipes and cables climb the column sides. Stairs begin far down in the crazy frame. Elevator guides go in. By July the derricks are leaning over thirty stories of clear space, with ten left to go. And already the bricklayers are tacking walls to the mid-section of the tower, with nothing below them but the spindles of painted steel. By the end of August the derricks are swinging water tanks and fans to the level of the roof, and the bricklayers, moving up and down the shell a story a day, have sheathed it all. Windows go in. Glass is set. Ornamental shop fronts appear from beneath a mask of boarding. The unfinished lobby offers a glimpse of hitherto unheard-of marbles and elevator doors as elaborate as the bronze doors of the Baptistery in Florence. Photographs of the new roof line with the silver shape of the *Los Angeles* beyond appear in the illustrated magazines. And the city newspapers refer again to Aladdin and the miraculous lamp.

N. Y. Times Commercial Studio

RISING GIRDERS MUST LEAVE ROADWAY FOR THE TRUCKS

All this is familiar enough. Few human beings in the great cities of America (and few in the small) have not seen or heard or walked around or bumped into the building of a new skyscraper. Every Sunday paper with space for an impressionistic drawing in shadows and shafts of light has described it. And yet the people who really understand how it is done are rare as Presidents in a college class. And the men who can do it are worth their weight in bonds. Or their weight in anything conceivable, for actually they do not exist. No man alive can build a skyscraper. No man alive can, alone and without the most complicated and accurate organization, oversee its construction. For its construction involves categories of specialized human knowledge and human skill so varied and so numerous that they exceed the power of any single will to control them. There were employed in the construction of the Chrysler Building:

400 masons and common laborers
256 plumbers
130 electrical workers
100 carpenters
150 steel workers
100 heating and ventilating workers
6 riggers
8 glaziers
4 marble-cutters
14 waterproof workers
10 asbestos workers and insulators
40 hoisting workers
60 tile-layers
35 window workers
25 iron workers
15 sprinkling system installers
35 workers on sidewalk bridges
2 installers of safety sidewalk elevator device
6 steel inspectors and expediters
20 workers on door bucks
4 mail chute installers
4 roofers
3 stone-cutters

In addition to these workers, there had been employed in the construction and planning of the building a varying number of:

architects
mechanical engineers
structural engineers
zoning experts
master plumbers
heating experts
ventilating engineers
electrical engineers
elevator manufacturers
experts on refrigeration
bond houses
insurance companies
real estate brokers
building inspectors
foundation builders
blacksmiths

Courtesy Mack Truck Co.

THE RUBBISH OF OLD BUILDINGS AND THE ROCK FROM THE EXCAVATIONS GO OUT IN TRUCKS . . .

boiler-makers
bricklayers
cement workers
concrete workers
composition workers
elevator constructors
engineers
glass workers
house-shorers
sheath-pilers
machinists
marble-carvers
job-runners
derrickmen
painters and decorators
plasterers
sheet metal workers
marble-polishers
bed-rubbers
sawyers
metallic-lathers
truck-drivers
riveters
watchmen
timekeepers
accountants
superintendents
foremen
wrecking crews
mosaic and terrazzo workers
pipe-fitters
gas-fitters
steam-fitters

And they were employed under limitations of time and space which exaggerated the difficulties and complications of their work.

Superficially put, the problem of erecting a skyscraper is the problem of building in half the necessary time, under the most dangerous, difficult, and inconvenient circumstances, the largest and most elaborate structure mankind has yet devised. At every step of the process, from the purchase of the land to the renting of the floor space, disaster is imminent, and during the actual construction only the combination of the skill of a field marshal, the wits of a train dispatcher, the tact of a prince consort, and the inherited erudition of a dozen sciences keeps things going at all. To begin with, there is the chance of financial failure. The life expectancy of an office building in a city like New York is not long, and even should the building be permitted to stand, business and hence real estate values may flow away from it. Again, a skyscraper is always built in a highly congested district because only in such a district can such an investment be made to pay returns (or, to adopt the phraseology of the skyscraper economists, because the value of the land in such districts compels such an investment). Consequently the foundations of the new building will go down beside the foundations of existing buildings, which will have to be shored in process, and against the margins of streets which must not only be supported but so supported that the channels of communication—water supply, gas supply, electricity, sewage disposal, and signals—shall not even momentarily be interrupted. But the great obstacle to be surmounted in the construction itself is the lack of space for storage of materials. The sheds full of steel, stone, brick, tile, cement, plaster, wire, wood, etc. which surround the building of even a small country factory simply cannot exist. The ground they would cover is ground worth \$200—\$300 a square foot, renting at commensurate figures. Consequently the building must be built from trucks. But since the streets surrounding the site are the busiest streets of a great city, the trucks cannot stand. They must unload and move. Which is to say that the materials they unload must, at least during the structural stages, be built at once into the building. If there were only the steel to consider, this would be difficult enough. But a glance at the Construction Progress Chart of any big building will show at once the multiplication of simultaneous operations that begin with the completion of the excavations. At the same time that columns and girders are being hauled in for the frame of the building, trucks loaded with tile, with brick, with boilers, with ventilating fans, with sheet metal, with electric cables, with wood, wire, paint, metal lathing, motors, water closets, nickel faucets, and terra cotta are lining the streets. The cement trucks that mix as they carry (a solution of one of the congestion problems) are revolving their bottle-shaped steel containers in the traffic. And a rush order of brass pipe which must be laid along the floor arches before the cement is poured is backing to the curb. Or later on, a low-swung trailer will carry to the job some huge piece of ventilating or heating machinery which must be lowered into the basements before the sidewalk beams upon the truck behind can be set. And the steel construction gangs,

. . . AND TRUCKS BRING IN THE MATERIALS OF THE NEW through now with their riveting aloft, are waiting, idle, for the sidewalk beams to come. But the difficulty does not end there. Not only must the delivery of materials be adjusted at one end to the capacity of the builders to receive them; it must also be adjusted at the other to the accidents and delays of long-distance transportation by water and by rail.

For the material of a great building, if it were returned to its places of origin, would be scattered like volcanic dust over the face of the earth. A modern skyscraper may contain, in addition to the West Virginia oak and San Domingan mahogany and Canadian spruce of ordinary usage, satinwood from San Domingo, Makassar ebony from the Dutch East Indies, bubingo wood from the West Coast of Africa, oriental walnut from Australia, Peroba wood from South America, English gray harewood, padouk from the British East Indies, avodire from the French Congo, East Indian rosewood, Austrian salewood, Brazilian burl, and South African madrone.

Its brass pipes, sheet copper, and copper rods and tubes may come from Ansonia, Waterbury, and Torrington, Connecticut.

Its aluminum will be of Pennsylvania or Tennessee origin.

Its asbestos may come from Russia or South Africa, but is more probably produced in Asbestos, Quebec.

Its insulating cork will be Portuguese or Spanish.

Its limestone will come from Indiana, its travertine from Italy, its cast stone from New York, its marble from Vermont or Sweden, its granite from Vermont or New Hampshire or North Carolina.

The chances are its cement is Pennsylvanian, its gravel and slate the same (with a fair possibility of Vermont in the slate), its common brick from Michigan or Massachusetts, and its zinc from Oklahoma.

Metal laths are built in Minnesota and West Virginia, cast stones in Crestwood, New York, face brick in Ohio.

Terra cotta is made in Perth Amboy and South Amboy, New Jersey, from New Jersey and Ohio clays.

Tiles are made from clay, feldspar, and flint in New Jersey, Ohio, and California, the clay coming from Florida.

Plumbing and plumbing fixtures will involve brass from Alabama; bronze from Bridgeport; pottery from Georgia, England, Canada, China, and Paris; marble from Mexico, Belgium, and Italy; and glass legs from Czechoslovakia.

Steel may be Pennsylvanian or English. Bolts and nuts are a national product with a Connecticut habit.

Most metal flagpoles come from Newark and Trenton. Ventilator fans are a product of Detroit, Buffalo, and the Commonwealth of Massachusetts.

Glass has a Pennsylvania-Missouri-Indiana-West Virginia-Ohio habitat, and wire glass roughly coincides. But considerable quantities of plate glass are French or Belgian. And so the list runs on.

GIRDERS ARE FIXED IN PLACE AS TRUCKS DELIVER THEM

BUR NGAME
P BLIC
B.

The assembly of this mass of material is not a mere question of purchase. The manufacturing industries are themselves directly involved, and the builder must coöperate with the shops. For example, structural steel is made according to the structural engineer's specifications. Blue prints and shop drawings of the members required are sent to the bridge shops. (Traditionally bridge shops rather than rolling mills make up the structural members. The rolling mill rolls the units necessary to the fabrication of the member and delivers these to the bridge shop. The bridge shop may be next door to the rolling mill or hundreds of miles away.) From the bridge shop lists of the plain shapes and sizes of steel desired are forwarded to the rolling mill. Some of these shapes and sizes are necessarily unusual and require an alteration of the rolls, during which process no rolling can be done on the bed in question. Consequently the mill will delay rolling the unusual shapes until it has enough orders from all sources to justify the resetting of the rolls. The delay may amount to six weeks. To meet this situation, the builder will get his shop drawings to the bridge shop as early as possible, and he may even go so far as to keep himself informed as to the pending orders for unusual shapes and sizes of steel in the various mills. But the association does not end there. The builder's expediters must follow the orders through, and the builder must provide and check the elaborate "setting plan" in accordance with which each piece is marked for its place in the building and, if the job is big enough to require several derricks, with the number of the derrick which is to handle it. In addition to his relation with the steel manufacturer, the builder must work in

Photographs by Margaret Bourke-White

THE OUTSIDE HOIST USED IN CONSTRUCTION OF THE CHRYSLER BUILDING . . .

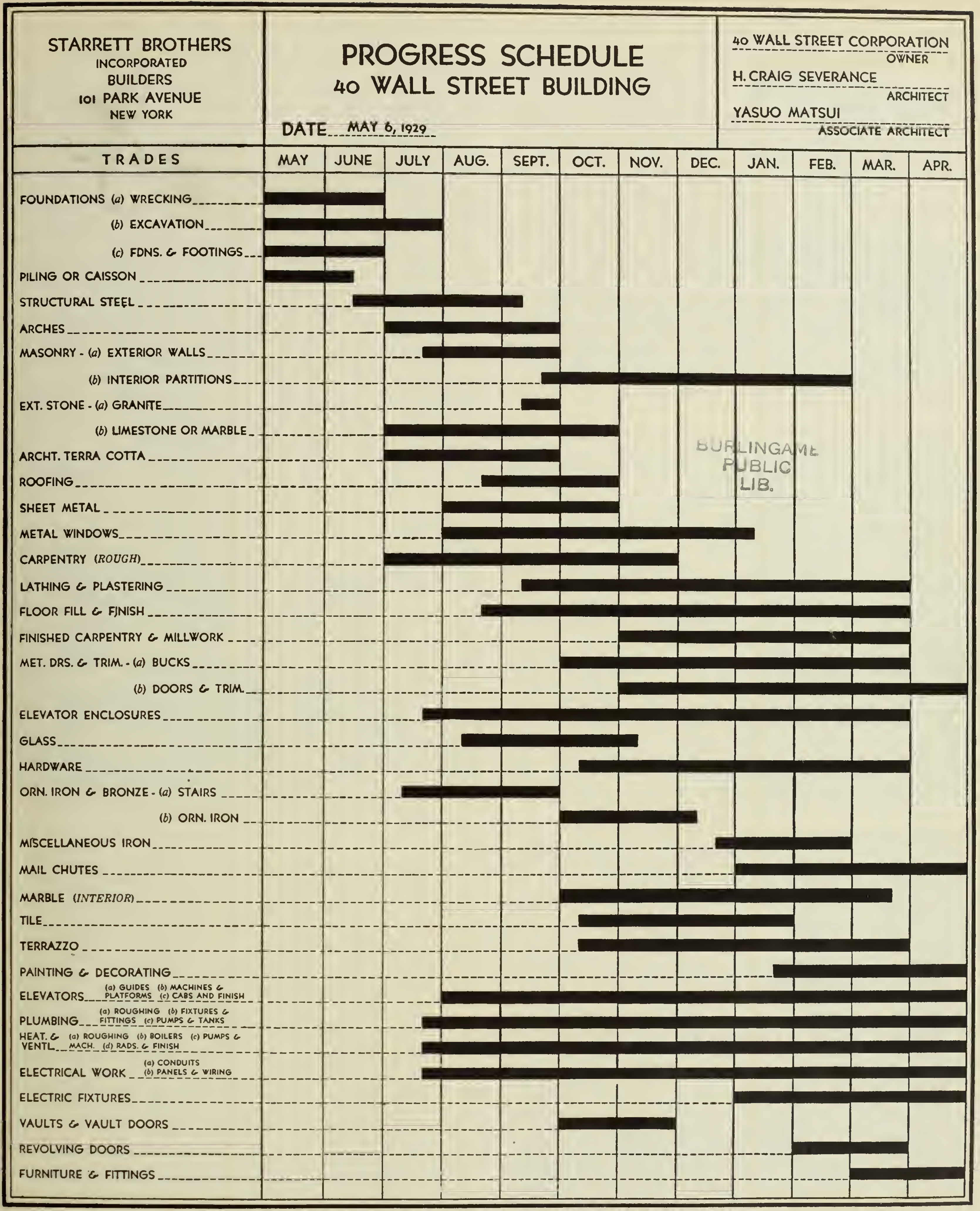
more or less intimacy with cement makers, brick manufacturers, terra cotta works, manufacturers of roofing and sheet metals, glass factories, elevator constructors, makers of fans, ventilating systems, heating systems, sprinkling systems, pneumatic systems, general electrical companies, paint shops, chemical dealers, and a score of manufacturers of the odds and ends of mechanical installation and interior finish. He must know enough to know where to go for what he wants, and he must know what he can expect. His profit depends upon such knowledge.

The difficulties surrounding construction apply also to the preparatory work. Even in the design and arrangement of the building the architect in New York (and other American cities having zoning laws) is not free. His building must comply with the provisions of local ordinances which require, to take New York as an example, that the building, if it rises above a certain height, shall recede from the street line until it occupies only one-quarter of the area of the lot. It must also comply with the requirements of the Building Code as to strength and construction. And it must be designed with an eye to the present and the possible future neighbors it will face. Not only must it harmonize with them to such an extent that its own design will not be neutralized, but it must be made as safe as possible against the competing and higher structures which the ambitions of rival banks, automobile manufacturers, and clothing dealers may throw into the sky above it. Last, but very far from least, the design of the building must be beautiful. The tall building is not only an agency of business constructed to house tenants and make their days as comfortable and efficient as possible; it is also an advertisement for its owner. And a lasting advertisement. It must attract attention and favorable attention not only now but ten years from now when the taste in woodwork and glass and metal and even the taste in line may be decidedly different from what now it is. The task is far from easy as the rate of mortality among New York buildings very clearly indicates.

There are, finally, as parts of the great problem of the erection of the completed skyscraper, the sub-contracts. Chief of these in importance to the mere existence of the skyscraper is the elevator contract. Without the modern electric elevator the tall building would be as impossible as it would be if structural steel had never been employed. The elevator manufacturer is represented from the very beginning of construction. So, too, are the ventilating engineer, the electrical engineer, the heating engineer, and the plumber. Their work is coördinated by the builder, but they are masters in their own fields and their own fields are difficult. So difficult that no one outside the profession involved can hope to do more than learn how best to use the knowledge of those within it.

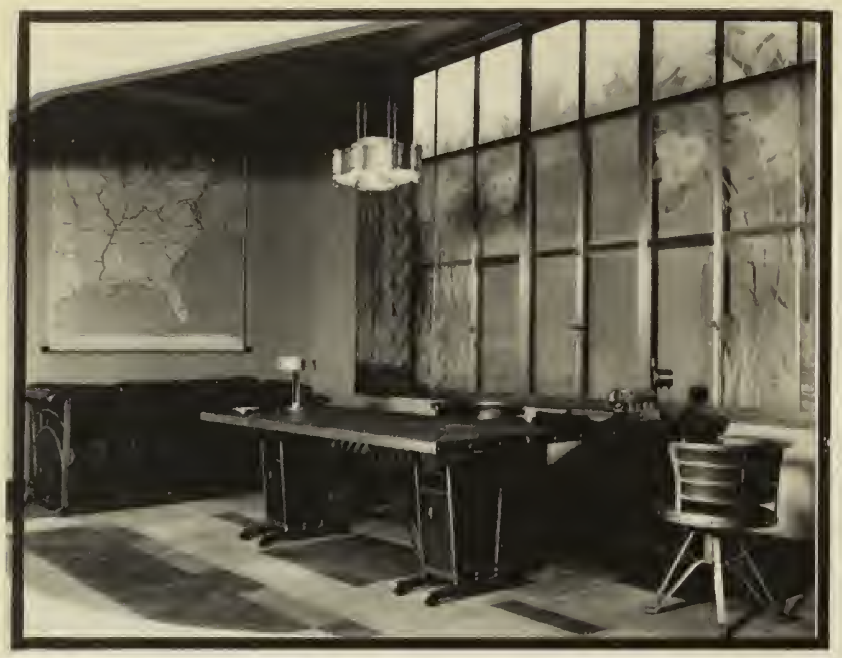
The story of skyscraper construction is the story of all these parts and their relation to each other. It is the story of the promotion and financing of great buildings, the preparation of the plans and specifications, the construction of the building itself, and of the mechanical services the building contains. But it is also the story of the men engaged in that work and particularly of the builder. For the complication of the builder's work, though it has replaced the individual man with the more accurate and consistent and comprehensive corporation, has not altogether swallowed the men themselves. George A. Fuller, Paul Starrett, Theodore Starrett, William A. Starrett, Louis J. Horowitz, Fred T. Ley, John Griffiths, Dwight P. Robinson, James and Alexander Stewart, Marc and Otto and Robert Eidlitz were and are more than names on letterheads of corporations. If these towers stand, either in steel or in the words of men now living who have seen them, the nations of another time will speculate as to their origin and their creators and their cause. They will imagine young and arrogant and reckless men who delighted in extreme height and great richness of decoration and were proud of their victories over the strength of the wind. They will imagine our age to have been what these builders would represent it. And it may well befall those overcautious gentlemen who now attack the skyscraper for its exaggeration of height and size to be honored for living in a time that built the thing they hate. It is permissible to hope that in that day the names of the builders themselves will not have been forgotten.

. . . THE HOIST FROM THE INSIDE. MEN AND CEMENT RIDE UP THESE RAILS

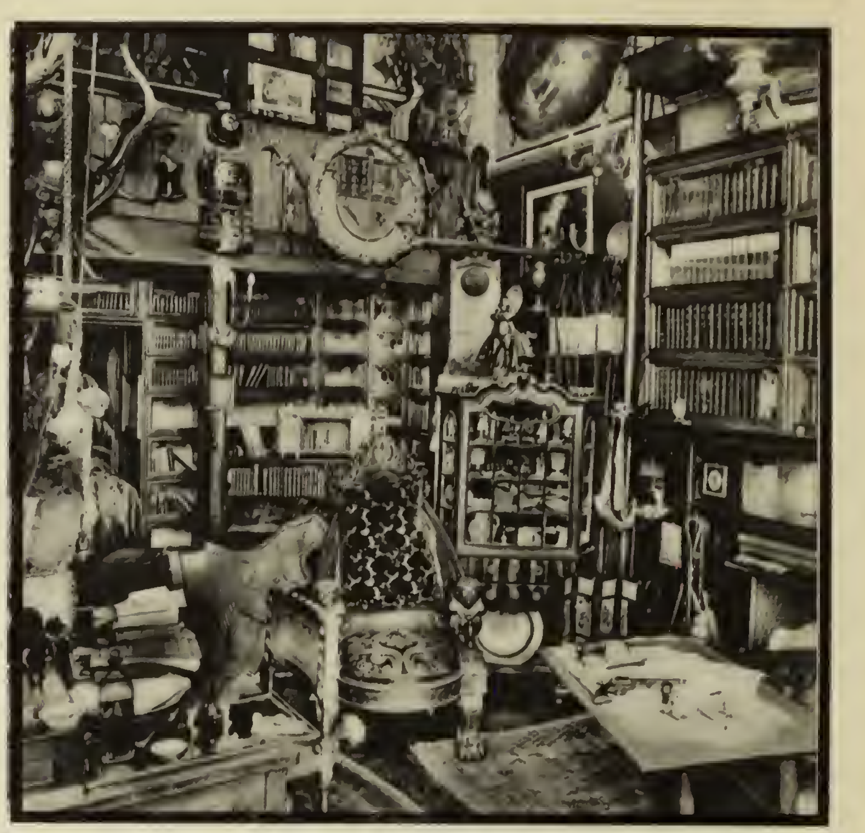


BURLINGAME PUBLIC LIB.

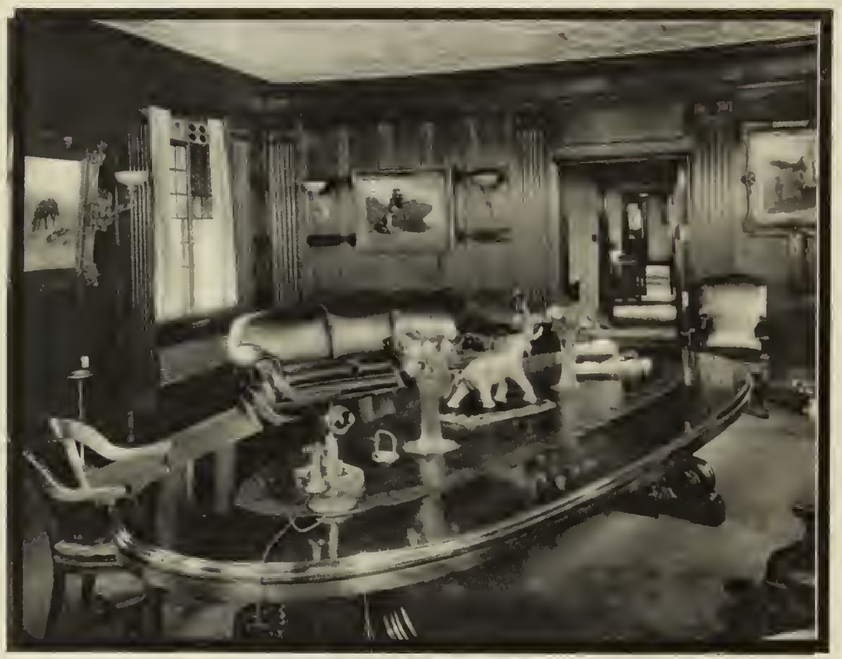
THIS WAS A RECORD IN SKYSCRAPER CONSTRUCTION



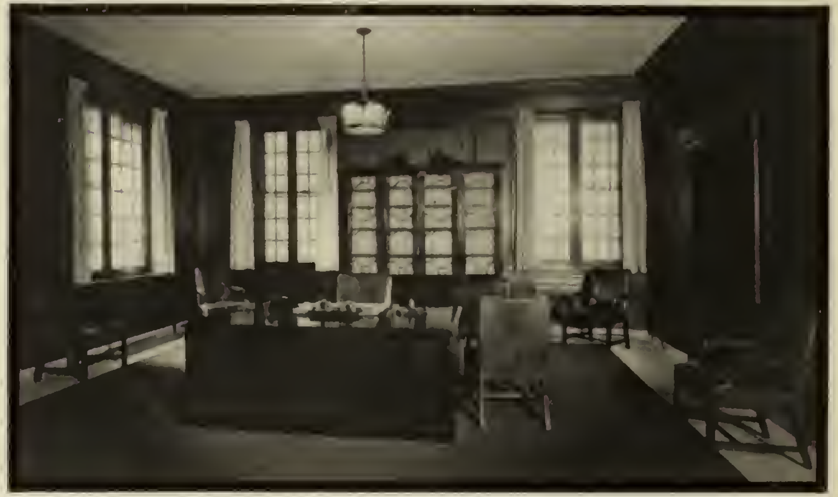
DESIGN FOR AN OFFICE BY RAYMOND HOOD



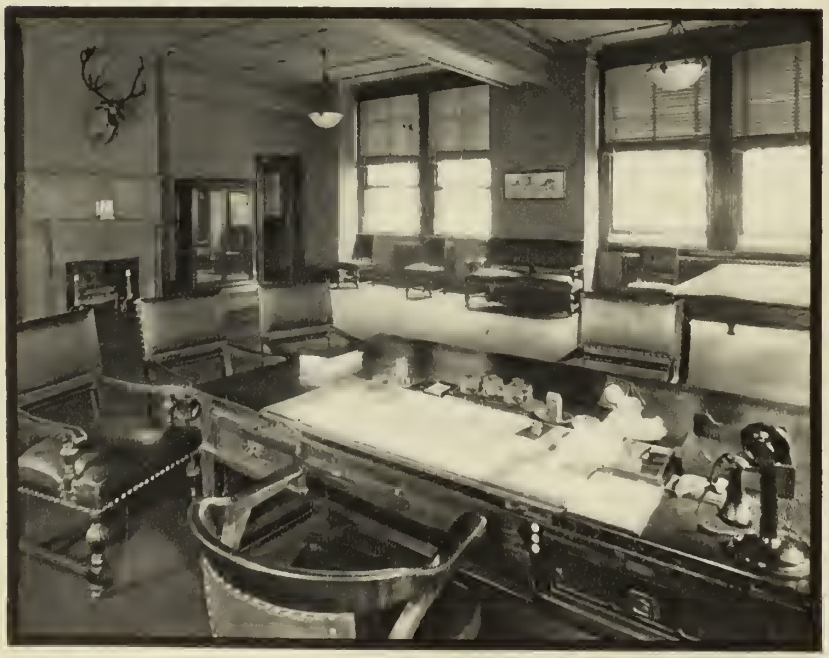
DAVID BELASCO



WILLIAM WRIGLEY JR. (WM. WRIGLEY JR., COMPANY)



ALBERT H. WIGGIN (CHASE NATIONAL BANK)



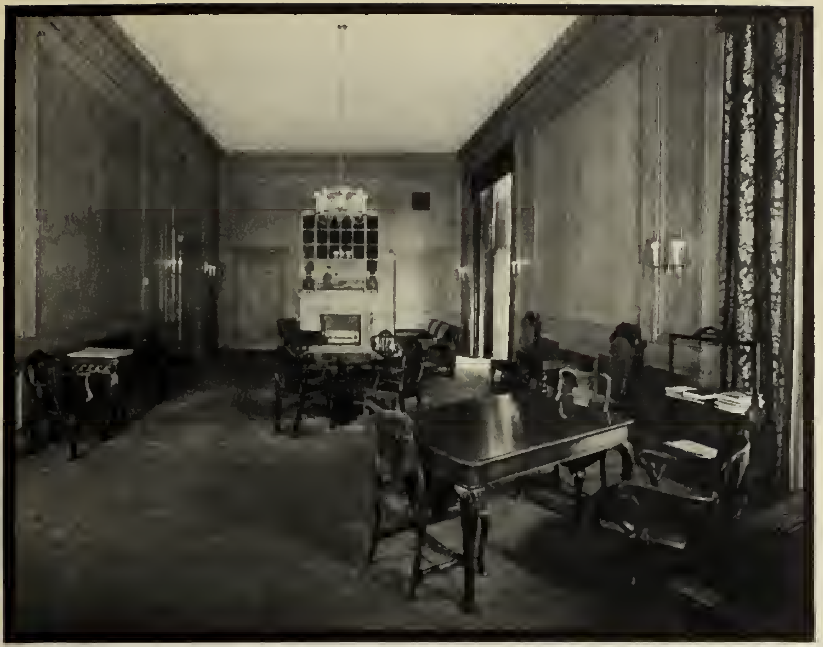
WILLIAM W. ATTERBURY (PENNSYLVANIA RAILROAD CO.)

The Executive and His Office

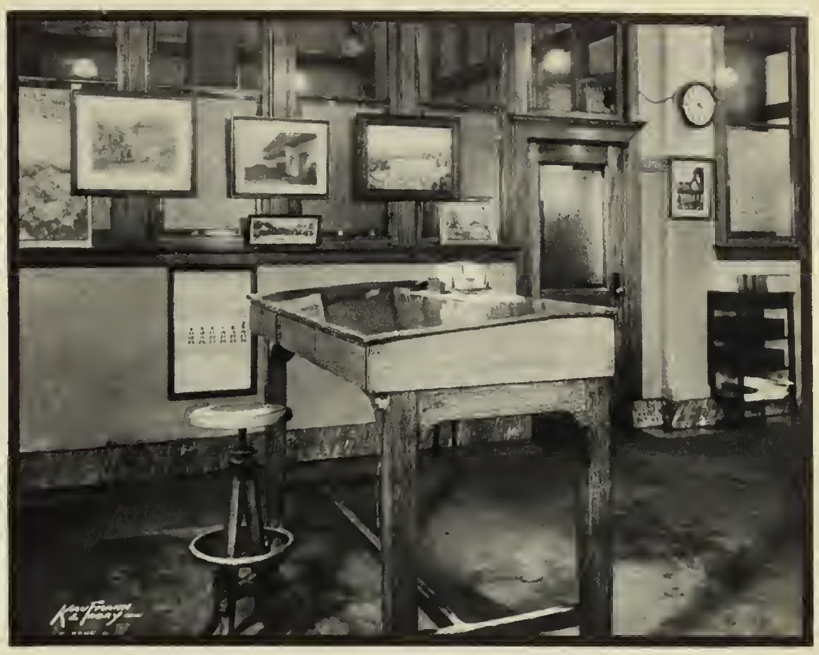
BURLIN PUBLIC LIB

PARTICULARLY if the man be married, his office is more castle than his home. He it is, after all, who decides whether his desk shall remain tidy or untidy. It is Mr. Wrigley's whim which elects that an elephant shall grace the center of his directors' table and that western pictures shall hang on his walls. No man can dispute with David Belasco the lavish disorder of his office or argue Albert Wiggin out of the chasteness which surrounds him. Certainly the roll-top desks (now being moved to new surroundings) reveal Mr. George Eastman, and the stand-up table at which Mr. Louis F. Swift transacts much of his business mirrors the simplicity and directness of his executive method. Wherever a man works, he perforce makes his impress.

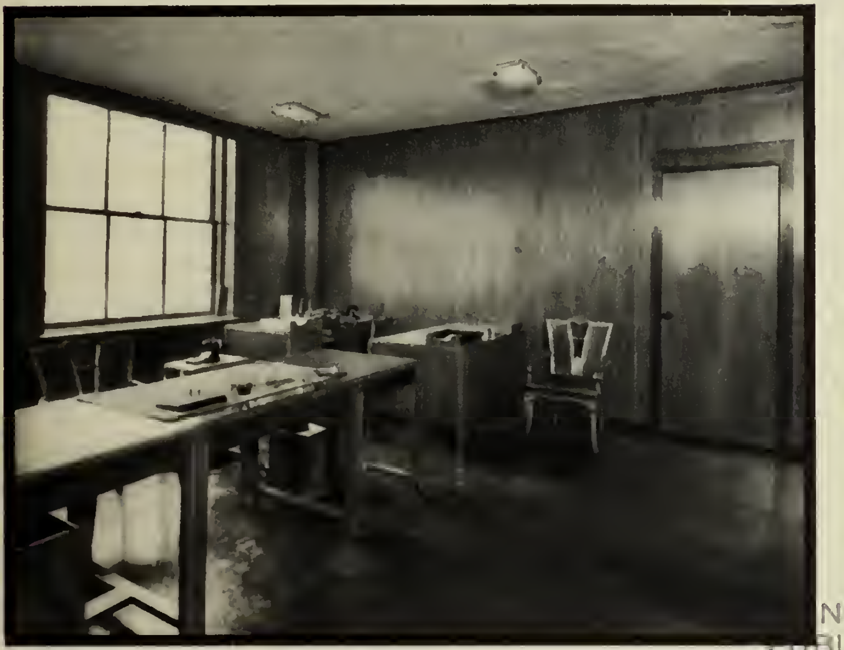
But it is only within recent years that the American office, instead of being a desk, a spittoon, and an insurance company calendar, has suffered a change into Chippendale or French green or something reminiscent of the Colonial. It is only lately that the American business man will show you his office with as much pride as he will



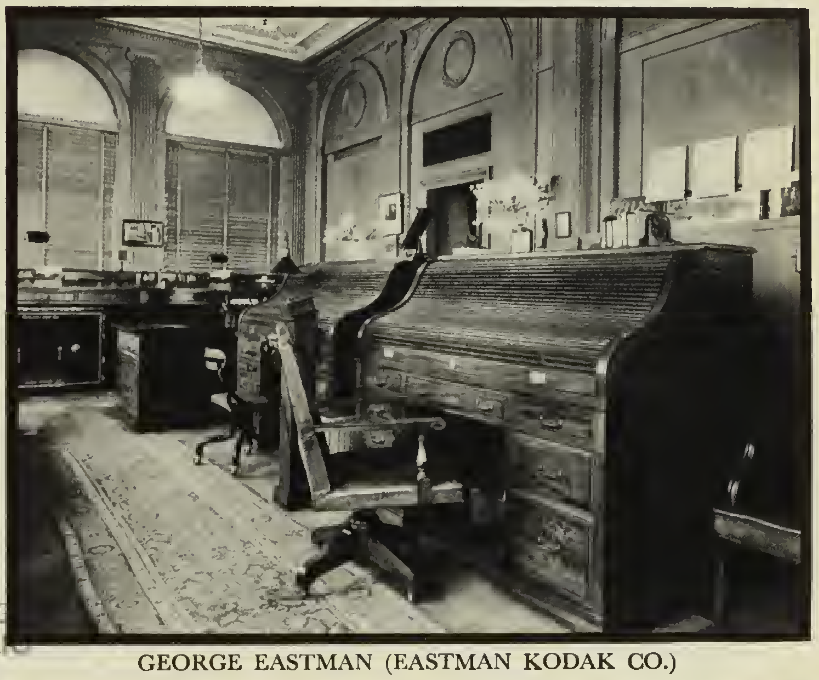
SIR T. ASHLEY SPARKS (CUNARD STEAMSHIP LINE)



LOUIS F. SWIFT (SWIFT & CO.)



GEORGE W. BACON (FORD, BACON & DAVIS)



GEORGE EASTMAN (EASTMAN KODAK CO.)

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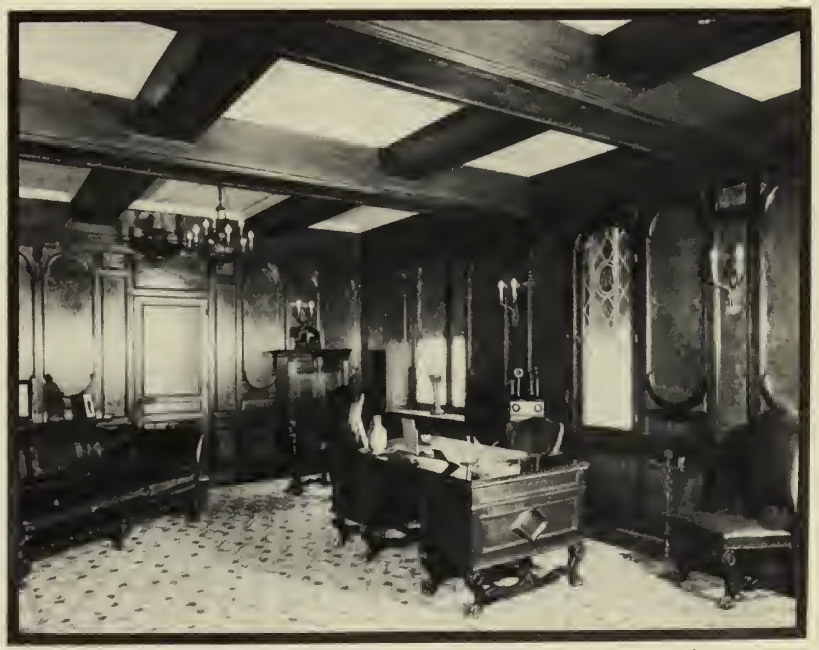
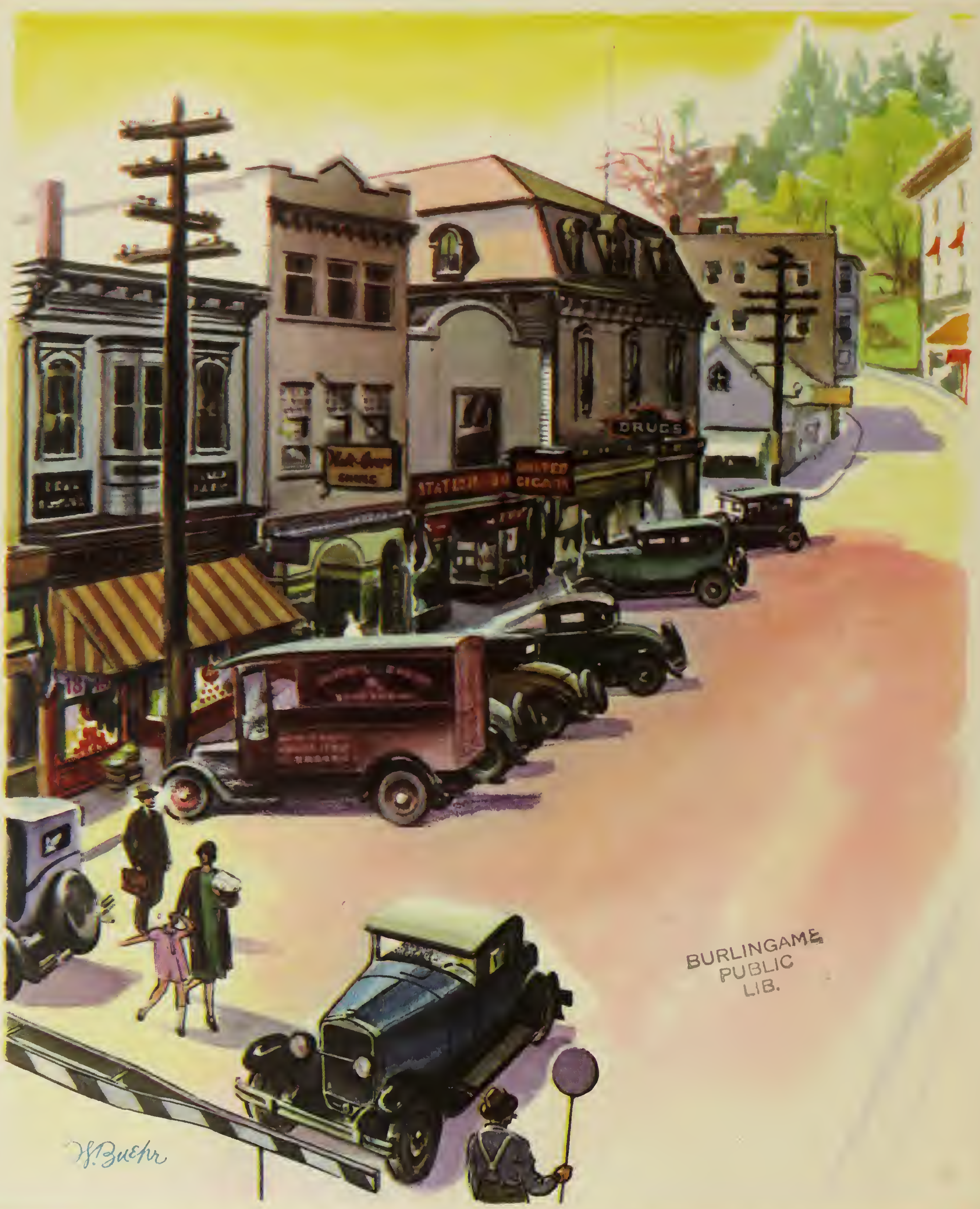
his house. Again it is only lately that his office may be in better taste than his house. Three things have contributed. Not ashamed of his trade and seeing luxury about him, the American executive has wished to bring that luxury to his place of work, tactfully and indirectly displaying the great soundness of a business which permits such offices, and, be it said, greatly adding to his own personal comfort. And, then, the pervasive activity of interior decorators, who in this day can scarcely pass through a tunnel without wondering how it would look in chintzes. Finally, the skyscraper, which has challenged its tenants to match its beauty.

From the offices pictured on these pages, it is easy to pick the old and the new. As the exterior of the skyscraper becomes simpler and more vigorous in line, so the decoration of its offices moves toward greater cleanliness, better air and light, more restful design. The first interior shown on these pages (designed by Raymond Hood and exhibited at the Metropolitan Museum of Art) suggests the paths along which the modernists would lead the business man. And the Ford, Bacon & Davis offices reveal the extent to which some executives have followed the suggestion. Whether or not steel furniture, carefully balanced color, and geometric design become generally accepted, there is no doubt but that the offices of the future will more closely approximate this simplicity than either the confusion of Mr. Belasco's rooms or the period styles of such offices as that of Sir T. Ashley Sparks.



ADOLPH ZUKOR (PARAMOUNT PUBLIX CORP.)


DRUGS
UNITED CIGARS
STATIONERY
Walk-Over SHOES
W. Buehr

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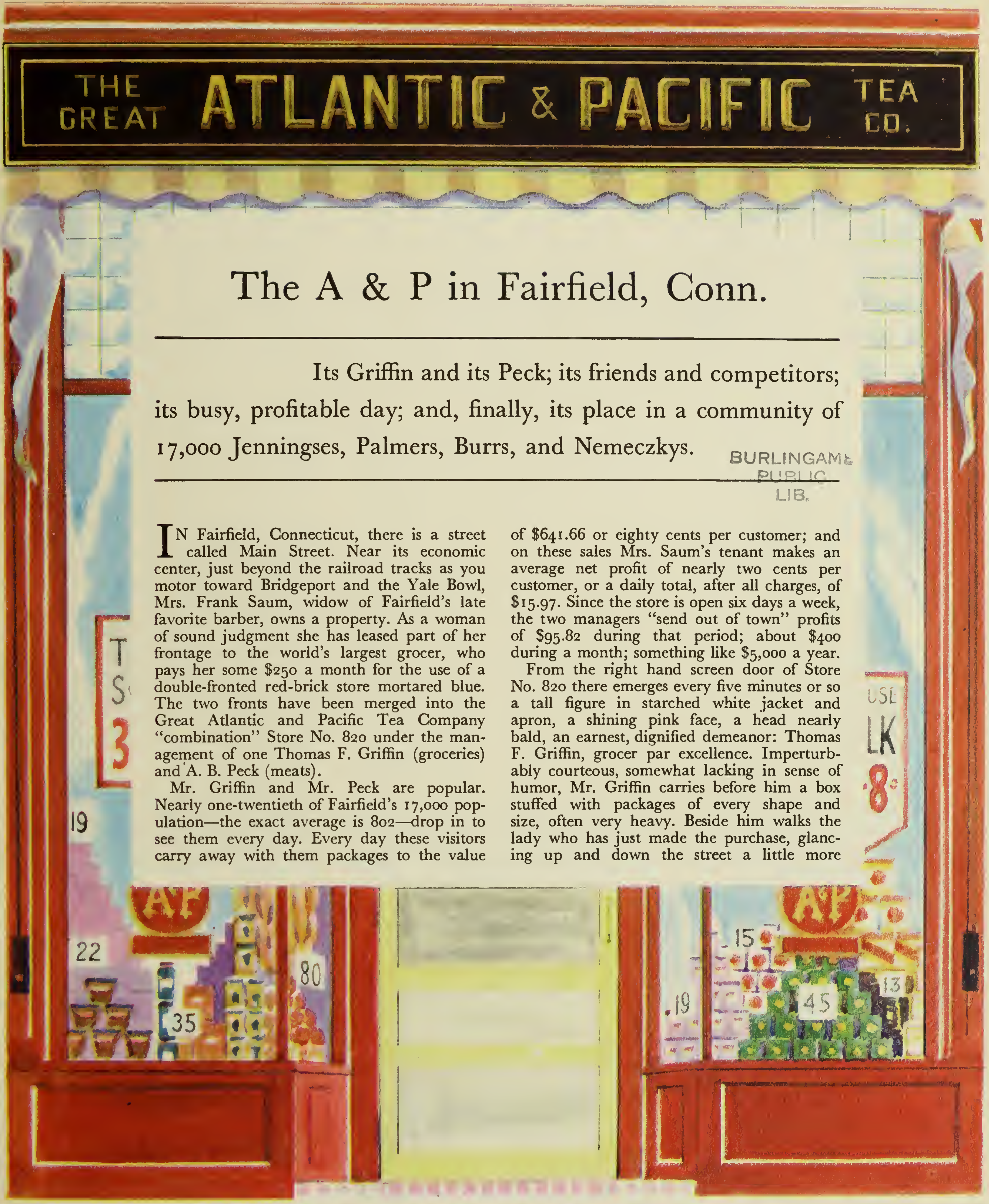
THE GREAT ATLANTIC & PACIFIC TEA CO.
A&P
A&P
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13
8

The A & P in Fairfield, Conn.

Its Griffin and its Peck; its friends and competitors; its busy, profitable day; and, finally, its place in a community of 17,000 Jenningses, Palmers, Burrs, and Nemeczkys.

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IN Fairfield, Connecticut, there is a street called Main Street. Near its economic center, just beyond the railroad tracks as you motor toward Bridgeport and the Yale Bowl, Mrs. Frank Saum, widow of Fairfield's late favorite barber, owns a property. As a woman of sound judgment she has leased part of her frontage to the world's largest grocer, who pays her some $250 a month for the use of a double-fronted red-brick store mortared blue. The two fronts have been merged into the Great Atlantic and Pacific Tea Company "combination" Store No. 820 under the management of one Thomas F. Griffin (groceries) and A. B. Peck (meats).

Mr. Griffin and Mr. Peck are popular. Nearly one-twentieth of Fairfield's 17,000 population—the exact average is 802—drop in to see them every day. Every day these visitors carry away with them packages to the value of $641.66 or eighty cents per customer; and on these sales Mrs. Saum's tenant makes an average net profit of nearly two cents per customer, or a daily total, after all charges, of $15.97. Since the store is open six days a week, the two managers "send out of town" profits of $95.82 during that period; about $400 during a month; something like $5,000 a year.

From the right hand screen door of Store No. 820 there emerges every five minutes or so a tall figure in starched white jacket and apron, a shining pink face, a head nearly bald, an earnest, dignified demeanor: Thomas F. Griffin, grocer par excellence. Imperturbably courteous, somewhat lacking in sense of humor, Mr. Griffin carries before him a box stuffed with packages of every shape and size, often very heavy. Beside him walks the lady who has just made the purchase, glancing up and down the street a little more nervously than the manager as they cross through the traffic. Whether the customer's income is $2,000 or $30,000 (for Store No. 820 has both), Mr. Griffin deposits the package in her car, bows with dignity, and returns. Approaching his own windows his severe blue eyes note the displays that he arranged early that morning: a large pile of dark green Del Monte cans priced to meet the Grand Union cut five doors below; a case of Clicquot Club dry ginger ale—a fancy item; a coffee sale—Bokar for twenty-seven cents; a butter sale—thirty-seven cents a pound, undercutting all competitors in town except First National, which has met the price; Long Island ducks (Mr. Peck's department) for twenty-five cents a pound —a knock-out. The three windows, with chickens in the small center one, are about equally divided between A & P products and other products, except in the matter of coffees and teas. This spring the tea and coffee displays have been exclusively A & P. Mr. Griffin vanishes.

Behind his counter he knows all his usual customers by name, but converses with reserve. Not only does he look like a grocer in an advertisement, but his quiet ability has been recognized by A & P, who have made his store a training school for other managers. For this reason, and because his is a combination store, instead of receiving the average $50, Mr. Griffin's salary is probably considerably more. At present he is training a short man whose dark hair is graying around the temples. This responsibility is an honor to Mr. Griffin. It is also a chore, since the Fairfield staff must always include a transient clerk who will move along to some store in the county as soon as he is trained. There are six other clerks in the Fairfield store, none of them much above twenty. Each takes care of some eighty-nine customers a day (about nine an hour); but to this figure allowance must be made for time out at meals and for the rush hours when the store is crammed. Mr. Griffin is sincerely proud of his store, but his A & P activities are not confined to its threshold. A few weeks ago, with charcoaled face, Mr. Griffin was interlocutor in a minstrel show given by the A & P Managers' Benefit Association at Bridgeport, where Mr. Griffin has his residence. Just five years in the employ of the company, he is eligible to buy A & P common nonvoting stock, when and if more is issued, and his family is protected under the A & P life insurance system.

It is a matter of some concern to the more community-conscious citizens of Fairfield that both Mr. Griffin and Mr. Peck live in Bridgeport. Not only, they say, is the A & P profit taken out of town, but its two largest salaries are spent in the metropolis six miles to the east. Mr. Griffin and Mr. Peck are trained to take this hurdle also. The former arrives in Fairfield about half-past seven in the morning, unlocks the store, supervises the uncrating of newly arrived vegetables (which come from New Haven). He leaves the store about six o'clock at night, nine o'clock on Saturdays. Twice a week he stays late to fill out a vast sheet called a goods order blank. The sheet is so composed that the order may be filled at the A & P warehouse with the greatest efficiency. It is placed on a warehouse hand-truck labeled "820," and this moves past goods which are stacked in the same order as that in which the items are listed on the sheet. When the truck reaches the end of the order, it is at the end of the warehouse departments. The load of groceries is then transferred to a motor truck for delivery to Fairfield on Tuesdays and Fridays, arriving about eleven o'clock in the morning. The Atlantic Commission Company truck stops every day.

The life of Mr. Griffin is a series of visits by superintendents and assistant superintendents of this and that. The inspections are so frequent that they hold no terror; there is no last minute primping because the boss is coming. Every day an assistant superintendent, with a dozen stores to inspect, drops in; his immediate superior, the superintendent, visits Mr. Griffin about once a week. A sales manager and an advertising manager introduce new products, engineer spectacular sales, arrange for space in the Bridgeport newspapers, widely read in Fairfield. This Bridgeport advertising does well enough since the prices announced are identical everywhere in the 315 stores served by the New Haven warehouse. Opened in 1914, Store No. 820 has never advertised in the weekly Fairfield *News*, another hurdle which Mr. Griffin and Mr. Peck are trained to leap. Every month Mr. Griffin makes an inventory of stock on hand and tallies this against receipts. The daily receipts are deposited in the Fairfield Trust Company, withdrawn at regular intervals, cleared in New Haven, whence they are checked to Boston, central office of the New England division.

Within the screen door it is cool and the air smells of produce. Just beyond the entrance a square wooden pillar painted green is surrounded by three pyramidal shelves displaying the day's perishables. The shelves are divided into compartments about a foot and a half long, and on the bottom shelf oranges from seventy-nine cents to eighty-five cents a dozen occupy six compartments—the largest display. Likewise on the bottom shelf are onions in three compartments, apples in two, potatoes in two, cabbage and lettuce in two, nuts in one. Lettuce is expensive—two heads for a quarter. On the second shelf, smaller in circumference, are grapefruit, two for thirty-three cents, cantaloupes, bananas, an old battered cash register, vegetables. The top shelf is very small. On it are cucumbers, a couple of small pineapples (the main demand for pineapples is in cans), more grapefruit and cantaloupes. On the floor beside the post are two green wire baskets filled with lemons; three or four empty spinach baskets, one half-empty; a basket of green peppers, full; a basket of peanuts, full, and another half-full of apples. All this was deposited when morning was yet gray by a big red Atlantic Commission Company truck that glided in from the warehouse at New Haven and piled crates on the sidewalk. Much of the produce is bought from local farms. In the vicinity of his green pillar Mr. Griffin sells $400 a week; $66.66 a day, in vegetables and fruit.

Business is larger along the right hand side of the store, where five wide shelves are stacked with cans, packages, bottles, and jars. Near the front window pickle and relish bottles gleam. The leader in this section is catsup, whose various brands, including tomato-cocktail, fill six feet of shelf. Halfway down the store are stacked teas, particularly Mayfair, which is now being tried out at Store No. 820 and in other New England stores. When a new article like this is placed on the shelves, it is closely watched by Mr. Griffin and his superintendents, and it has to fight for its place. Mayfair is only about two months old, and its fate is not yet determined. Beyond the cash register are a couple of yards of canned milk—White House (canned by A & P), Magnolia, Borden's, Van Camp's. Canned milk is to the shelves along the wall what oranges are to the shelves around the green pillar. The topmost shelf, seven or eight feet high, carries a complete line of cereals. This unit of the store, including all canned goods and packages, together with the National Biscuit Company display near the front door, turns over $970 a week; $161 a day.

Set into the back wall of the store a large refrigerator contains butter, fresh milk, cheese, yeast. In front of the refrigerator is a second counter stacked with eggs, in boxes and loose. Near-by is a rack of brooms, a rack of garden seeds—both racks made somewhat inaccessible, on busy mornings, by the large piles of cardboard bakery boxes containing Grandmother's Bread, the empty boxes pushed aside in all directions. This is the "sales" corner, and on busy Saturdays it is not easy to follow the movements of Bokar cans, unpacked as sold, A & P Bartlett pears, or Del Monte peaches.

Detached features of the store are tobacco, located near the front, with a total weekly sale of $100, nearly 3 per cent of the business; a glass case built out from the main counter containing pastries; candy beside the cigarettes.

The following are Mr. Griffin's total sales (approximately):

	Weekly
Jars, packages, cans	$970
Produce, fruit, vegetables	400
Butter	265
Sugar	170
Coffee	130
Eggs	125
Bread	120
Tobacco	100
Soap	85
Milk (canned)	75
Flour	50
Tea	40
Total	$2,530

The turnover of Mr. Griffin's end of the

Corbit

A. B. PECK AND THOMAS F. GRIFFIN, GENIAL, EARNEST EXECUTIVES OF A & P STORE NUMBER 820, IN FAIRFIELD, CONN.

business is about $2,530 a week; along the left-hand wall Mr. Peck brings this total up to some $3,850 a week by doing a $1,320 butcher business. Mr. Peck is a kindly man with wrinkled face and spectacles. Since he is a trained butcher, his salary is likewise probably well over $50 a week, and he has two clerks, William Banyas and George Cole. Mr. Peck's emporium was formerly a butcher shop owned by Johnny McGarry. McGarry moved up the street to his present white-tiled store; his shop was annexed to the A & P, its walls torn down. That was three years ago. Mr. Peck's counter is of glass for the display of cuts, with those Long Island ducks a feature. Shelves on the wall toward the rear are stacked with canned fish, especially A & P salmon. Though high in rank, Mr. Peck is not officially the manager of the store. Responsibility for locking up, cleaning, and accounting falls upon the adequate shoulders of Mr. Griffin. Besides doing a major part of the business, Mr. Griffin's "sales" are larger and more complicated than Mr. Peck's. The sales and advertising managers at New Haven are constantly adjusting the price of his rice or arranging to turn over a larger amount of butter when butter is cheap. They must keep in touch with the prices of his competitors—Grand Union, First National (formerly Davey Brothers), and Logan Brothers—on canned asparagus, tomatoes. Consequently the store's windows are more important to him than to Mr. Peck, and not content with the window on the grocery side of the store, he overflows into Mr. Peck's window quite at random. Mr. Peck is left with a little window between the two doors, where chickens are hung and bright cards daily announce the prices of the meats.

The gross business of Store No. 820 is $1,500 more in summer than in winter. This is not only because of the tourists and picnickers, but because its largest customers are persons who winter in New York City and do not appear at their estates in the vicinity of Fairfield until spring.

• • •

This is an old town, settled in 1639 amid the burning of witches. The British burned it in 1779. Fairfield citizens are proud of their history to the point of shifting the Post Road away from their old church and village green in order that clattering Main Street might not disturb their dreams about their ancestors. Nevertheless, with the help of the factories and the city of Bridgeport, to which Fairfield is practically a suburb, Main Street has done just this. The chains are capitalizing on Main Street, not only from the extremely rich and the extremely poor, but from middle incomes of $5,000 or so, whose earners commute from Fairfield's suburban homes to Bridgeport or even New York. The town's growth has been from agriculture through industry to real estate. Development of suburban real estate, now the Fairfield phase, has added 6,000 to the population in ten years.

However, between the housewife and her grocer there is a subtle link—the husband. He will comment on the food; he will pay the bills. Between the housewife and Mr. Griffin of Store No. 820 this link is missing; she carries money in her purse that is apparently her own, while Mr. Griffin is unable to offer her anything of especial tastiness, chosen with pride by himself. It is by the preservation of this link that the two big independent stores in Fairfield thrive: Mercurio's, the luscious Italian grocery; McGarry's, the old traditional meat market. In a sense neither of these stores is competing with Store No. 820, because their stock is of a deliberately superior kind. While A & P is displaying canned peaches Mercurio's devotes a whole window to nonalcoholic vermouths. Mercurio's asparagus is dear, but it is green almost to the very end. At McGarry's you will find the finest, most expensive cuts of meat. Epicures are inclined to go to the chains for their staples and to run up prodigious bills for luxuries at these more fashionable independents. Besides the epicures and the careless rich, the independents do well with the conscience trade. Every man engaged in a business that touches the town retailers must trade with the independent merchant. Edward Brennan, publisher of the Fairfield *News*, and Howard Comstock, its editor, not only trade with the independents, but also put in a good editorial word for the

BECAUSE SHE BUDGETS, MRS. CARLETON H. PALMER, WIFE OF THE PRESIDENT OF E. R. SQUIBB & SONS, BUYS AT A & P

Courtesy Bridgeport Post

SELECTMAN FREDERICK A. BURR WILL RULE FAIRFIELD AS LONG AS HE LIVES AND LIKES

MR. AND MRS. DONALD PERKINS SHOP WHERE THEY CAN GET THE MOST FOR A DOLLAR—THE A & P

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policy of buying from the locally owned stores. This paper waged an antichain "trade with your own taxpayer" campaign two years ago.

Corbit
THE MERCURIO "CHILDREN"—SALLY, JIMMY, FRANK AND MRS. DOMINIC—SELL TO THE EPICURES, THE CARELESS RICH

Johnny McGarry has a good trade. As Postmaster William Gould says, he could carry on very well with the accounts of Walter B. Lashar (American Chain Co.) and the Jennings families alone. There are fewer Jenningses in Fairfield than Cheneys in South Manchester, but their paternalism is the same in quality, and they are rich. O. G. Jennings, who was born in Fairfield, made his money in Standard Oil. He has been a McGarry customer ever since he married. Likewise his son Lawrence, whose wife is the daughter of Witherbee Black (Black, Starr & Frost-Gorham). Besides these big accounts, McGarry has Mrs. Charles Le B. Homer (sister-in-law of Owen J. Roberts); Robert H. Leach, vice president of Handy & Harmon.

Mercurio's grocery is first class, with a great display of fat fruit and vegetables in front of it, and many chauffeurs crossing in and out. It opened some thirty years ago, with the family living above and the innumerable children spilling over into the shop. Two years ago the business was formally turned over to four children—Dominic, Frank, Sally, Jimmy—all under thirty. Sally is the boss, Dominic is the president and drives one of the five trucks. He continues to drive because he is known to housewives in that capacity. Mercurio faces are entirely irresistible. They have for customers, among others, Mrs. George Waldo, wife of the editor of the Bridgeport *Post and Telegram;* all the Sturges families—Henry S., Frederick, Clarence B. (and his smart Tide Mill Tavern, which is a plum to any tradesman); the Jenningses; Mr. Jennings' sister, Mrs. Hugh D. Auchincloss; the Warners (corset manufacturer at Bridgeport); the country clubs; the Standard Oil Bedfords; Horace B. Merwin, Bridgeport banker and president of the Fairfield Trust Company.

It would be convenient to be able to divide the buying public of Fairfield into two groups: this distinguished, die-hard society which clings to its extravagant independents, and the penny-wise middle and lower classes patronizing Messrs. Griffin and Peck. Convenient, but untrue. For A & P straddles Fairfield as indiscriminately as the postman. Among Mr. Griffin's customers, for example, are:

Mrs. Carleton H. Palmer, former president of the National Junior League, wife of Squibb-President Palmer, active citizen of Fairfield, interested in the cultural life of the town. Store No. 820 offers everything she needs at prices within her budget. Her only complaint against the A & P is that it does not buy its vegetables from Fairfield truck gardeners whenever possible (in season). Vegetables for Store No. 820 come from truck gardens near the New Haven warehouse; but in general Mrs. Palmer roots for A & P and does all her shopping there. At the first of every week she deposits a budgeted sum of money with Mr. Griffin, and her chauffeur collects her daily orders. Mrs. Palmer does not believe in charging things. She thinks Macy's is the most marvelous store in the United States.

Mrs. Donald Perkins, whose husband is a special representative for *Standard Statistics*, says that she must shop where she can get most for her money. That is, she finds, at Store No. 820.

Selectman Frederick A. Burr, who, like Napoleon, is first selectman with two other selectmen under him, rules Fairfield with the unofficial title of "mayor." He shops all about town, affably including both chain and independent, and is inclined to prefer Logan Brothers and First National to A & P, because the two former derive from Bridgeport. Nevertheless, he drops in on Mr. Griffin now and then. His only comment on the competition between chains and independents is directed against Mercurio's, because it keeps open all Sunday. " 'Tisn't decent."

Charles H. Munson, vice president of the Air Reduction Company.

WILLIAM GOULD, POSTMASTER, ADMIRES CHAIN STORES, WITHDREW FROM GROCERIES IN 1915

HOWARD COMSTOCK, YOUNG EDITOR, EXHORTS CITIZENS TO BUY FROM TAXPAYING CITIZEN-TRADESMEN

JENNINGSES SUPPORT ALL TOWN ENTERPRISES. MRS. LAWRENCE K. JENNINGS IS A CUSTOMER OF McGARRY AND MERCURIO

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EMERY NEMECZKY, 290-POUND HUNGARIAN, GIGANTIC GARBAGE MAN

Arthur R. Womrath, of the circulating libraries, who sends his chauffeur.

Emery Nemeczky, who burns Fairfield's garbage behind his own little farmhouse for $100 a month. Emery is a gargantua who arises at 4:30 in the spring, plows gardens until dusk, when his horse is exhausted. He weighs 290 pounds, and as he plows his hand merely rests on the handle. He moves with a jovian majesty. He accumulates money, holds mortgages, and will trade with no one but the chains. He gets wistful about wealth. "Even if I plow the whole world, I never be *really* rich."

• • •

Postmaster Gould best expresses Fairfield's attitude toward chains. He withdrew without bitterness from the grocery business in 1915, foreseeing that chains were inevitable, economically sound, that the A & P was only the beginning of the invasion of non-civic stores. He points out that in the 1880's Fairfield was initiated to the Smith chain, called the Village Stores and started near Bridgeport by George Gilman for his adopted son, G. W. Smith. It is a fact to remark that this same George Gilman was co-founder of A & P with old George Hartford on Vesey Street. Whether the Smith-Gilman combination was imitating Hartford, or whether Hartford was imitating Smith in establishing grocery chains, history does not relate. Fairfield buys nevertheless and is still talking about millionaire George Gilman, his fabulous house, his legended women, his tallyho.

The A & P Company as a Whole

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Its 15,500 stores; its three Brobdingnagian subsidiaries; its dedicated cows; its rich, modest Hartfords.

THE Great Atlantic and Pacific Tea Company is a billion dollar business. Which is to say that last year, like Ford, General Motors, U. S. Steel, Swift, and a very few others, its gross sales amounted to more than $1,000,000,000. The Great Atlantic and Pacific Tea Company, largest chain organization in the world, has 15,500 stores which dispense about one-fifteenth of the food sold by retail stores in the United States. Its little red shops whose black signboards always bear the gilt lettering

THE GREAT ATLANTIC AND PACIFIC TEA COMPANY

reported a net profit last year of $26,219,631. Its volume of business is ten times that of Liggett and twelve times that of United Cigar. Add Sears, Roebuck to Montgomery Ward and then include J. C. Penney—the total of business will be $100,000,000 less than the Great Atlantic and Pacific Tea Company total.

But the truest token of gianthood has not yet been revealed. It is this—the Great Atlantic and Pacific Tea Company makes just 2.49 cents on each dollar of sales. No other contestant, pigmy or elephantine, in the retail field can make so few cents and still call its business profitable. Swift makes only 1.5 cents on the dollar, but Swift is principally a wholesaler. [FORTUNE, February, 1930.] Ford, popularly supposed to have the nethermost profit rate, makes 7 per cent on sales to dealers; General Motors makes 17 per cent. Yet the Great Atlantic and Pacific Tea Company aspires to reduce its rate to $.0225, possibly to $.02. That would be budgeteer's Utopia.

When throughout the United States no issue, except prohibition, is more violently discussed than the Chain Store issue, it is natural the A & P, by all odds the biggest chain, should be the most savagely attacked. Popular small-town outcry defines the issue as Chain Store vs. Independent. And on this line Mr. Henderson of Shreveport, Louisiana, has erected his Ku-Klux-Klan-like antichain organization. But this is *not* the way that Big Business defines the issue. For Big Business the issue has an entirely different definition. For Big Business, the issue is Chain Store vs. Manufacturer or Chain Store vs. Wholesaler. Specifically it becomes A & P vs. General Foods, or A & P vs. California Packing Corp., or A & P vs. Any Number of Others of our Hugest Corporations which deal in commodities or branded articles. Big Business may well define the issue so. For A & P has been a fierce economic opponent. Whenever it could not buy from other huge corporations the things it wanted at the price it considered fair, A & P has gone out and produced or assembled these things itself. Hence, quite as exciting as its 15,500 stores are its innumerable fisheries, canneries, bakeries, or the innumerable cows and hens whose lives are completely dedicated to A & P.

Thus it is that an understanding of this giant company must begin with its three great subsidiaries. Each a giant in itself, they are:

The American Coffee Corp.
The Atlantic Commission Co.
The Quaker Maid Co.

The American Coffee Corp. is the largest coffee concern in the world, the only one controlling coffee from Brazilian tree to U. S. housewife, and it accounts for nearly 60 of the 1,000 million dollars which A & P takes in every year. It is described on page 48.

The Atlantic Commission Co., world's largest buyer of fruits and vegetables, makes A & P the supreme Master of the American Map. Of this, more later.

Brobdingnagian maid

It is perhaps through the eyes of Quaker Maid that we can best visualize the magnitude of the Brobdingnagian picnic which A & P is daily preparing for this nation (A & P feeds, of course, the equivalent of many complete nations). Quaker Maid has, for example, salmon. That is, they are hers when her own fishermen catch them on Alaskan mornings and her machinery squeezes them into cans on Alaskan afternoons. One plant cans 70,000 fish a day. A & P sells 26,000,000 cans a year, half of them supplied by A & P's own Quaker Maid.

A scattered herd of 75,000 cows in Wisconsin, carefully chosen but not owned by Quaker Maid Co., supplies two huge canning factories where over 130,000,000 cans of evaporated milk are packed each year. In 1921, before A & P had begun to can milk, a customer in an A & P store could buy eight cans of evaporated milk for a dollar. Of this, twenty-seven cents represented raw milk; and the farmer's profit, manufacture, distribution costs, and profits took up the seventy-three cents. Now, if the consumer asks for White House milk he gets twelve cans for a dollar—fifty-two cents' worth of milk plus farmer's profit, and forty-eight cents for distribution and manufacturing costs and A &

P's 2.49 cents profit.

In Brooklyn a vast Quaker Maid factory packs a vast assortment of foods: 72,000 pounds of jams and preserves ooze into jars every day; 70,000 pounds of cereals; and hundreds of thousands of pounds of baking powder, rice, lentils, and split peas are put into dated paper packages every day. Veritable conduits of mayonnaise, vats of olive oil, cauldrons of pickles and cauliflower (for relish) are jarred. The Brobdingnagian picnic preparations also include hundreds of pounds of noodles, miles of spaghetti, hundreds of pounds of mustard, peanut butter, maple syrup, extracts, cocoa, candy, spices, and ammonia. In Terre Haute, Indiana, a similar factory pours out a similar assortment of foods and adds to it a daily production of 10,000 cans of baked beans.

Yet Quaker Maid's deluge of food, amounting to some $25,000,000 a year, accounts for only a small per cent of A & P's total. At least two-thirds of the shelf space in an A & P store is dedicated to nationally advertised, better known brands like Del Monte canned foods and Blue Ribbon mayonnaise. Quaker Maid products act as a reserve to the national market.

Butter, eggs, bread

Besides what it gets from its three great subsidiaries and besides what it buys from other manufacturers, A & P has other making and assembling activities of its own. For example: butter, eggs, bread.

A & P owns no dairy, but selects its Wisconsin sources of butter, supervises and inspects them regularly. Largest butter dealer in the world, A & P sells over 130,000,000 pounds annually. It is excessively vain of this product, for it pays one-half cent more than necessary to assure itself of good quality. Every grocer knows that his reputation depends chiefly on the quality of his butter, eggs, and coffee.

If every person in New York City were a hen and laying regularly, there would not be enough eggs to fill the A & P demand. The 7,500,000 supplying A & P hens are not owned by A & P. Buying is done directly from carefully selected farmers who sell their whole output to A & P.

Every hour of every working day some 153,717 loaves of Grandmother's Bread are sold across A & P counters. This amounts to more than 500,000,000 a year, baked in thirty-three widely distributed A & P bakeries, after the direct purchase from the mills of 5,000,000 barrels of flour. A Federal Trade Commission study tends to show that A & P (and other chains who do their own baking) sells bread to the public for less than the average baker can sell it to the retailer.

Man named Hartford

Butter, eggs, bread, salmon, jam, pickles, rice, oil, noodles, mustard: surely there is some place where the wearied mind may come to rest and find coherence. There is. There is a man named John Hartford. He is the son and heir of the Founder. He is the only man who has complete authority over the incredible, inconceivable, unimaginable activities of the A & P which seem, to the unthinking customer, so simple, so commonplace. He has a brother named George, less active than he. He lives in a vast, wooded estate at Valhalla, New York. And that is all that is known about him, except that he is pleasant to talk to. And except that he must be one of the really richest men in the United States. For last year (as similarly in other years) there must have gone to his credit a great part of A & P's $26,000,000 net profit. For if it did not go to him, then to whom did it go? The A & P company has 2,000,000 common shares outstanding. Of these only 120,000 have seeped out to the public (via the Curb), and some 240,000 have gone to employees, leaving more than 1,500,000 shares or three-quarters of the company in the hands of—whom? Presumably the Hartford family. Even if this family owned only a third of their company, it would be necessary to talk of Rockefellers, Fords, Mellons, before you could be sure you had named richer men.

THE MEAT AND PASTRY CORNER OF THE APOTHEOSIS OF ALL A & P STORES AT ARDMORE, PENNSYLVANIA

The immensity of A & P finds center and unity with John Hartford. But quite as extraordinary as that one of the greatest enterprises in history should be controlled by an Unknown is the fact that the origin of this enterprise lay in a product of secondary importance. The late John Hartford's father began with tea.

Tea & history

In 1859, in the days of John Brown of body fame, tea was selling for $1.00 a pound. This outrageous price induced George Gilman, a leather merchant located in the Swamp of New York City, to buy a cargo. He hired a store at busy 31 Vesey Street, stocked it with the tea, and added some coffee and spices. The humble façade he painted red. His partner was a young chap named George Huntington Hartford. This man Hartford saw farther than Gilman; he soon bought out Gilman's interest, popularized the store by the use of premiums—gaudy china, glassware, crockery. Then he induced ladies to form clubs and pool their premium coupons.

Clubs sprouted as far away as New Jersey, and this led Hartford to open a new store for the convenience of outlying club members. He found he could operate two stores as easily as one. It became apparent that if he had more outlets, he could sell wholesale tea in five-pound packages; by 1867 he had conceded to selling one-pound packages, always at wholesale prices. This was undercutting other retailers about $1.00 a pound. Hartford already had the idea. In *Harper's Weekly* for May 11, 1867, he advertised in dreadful hodgepodge type: "The proprietors of the Great American Tea Company became fully convinced, several years ago, that the consumers of tea and coffee were paying too many and too large profits . . . and therefore organized the Great American Tea Company to do away, as far as possible, with these enormous drains upon the consumers." He then proceeded to list eight profits between China and the American consumer and claimed to eliminate them.

From this beginning the chain store principle developed very rapidly. By 1876 there were sixty-seven so-called "branch retail houses . . ." Eighteen of these were in New York City, four in Philadelphia, three in Chicago. Stores farther away were those at Rochester, St. Paul, St. Louis, Indianapolis, Louisville, and Baltimore. But it took many years for Hartford to get rid of the tea merchant idea. Other items were added cautiously, and the company's growth was retarded by an elaborate delivery system. Still, the "economy" policy of making little percentages on a swift turnover (A & P net working capital of $84,588,509 turned over twelve and one-half times last year for a gross business of $1,053,000,000) was deeply appreciated in the boisterous days of Fisk, Gould, and "the public be damned." Mr. Hartford continued to expand, continued to add staples, and by 1910 owned 372 stores. In 1912, when he had 447 stores, he instituted the cash-and-carry system and began to grow in very earnest. When the War broke he was in the thousands; when the Armistice was signed A & P owned 4,000. But old Mr. Hartford died in 1917 without reaching the Pacific Coast.

He had founded, as above noted, the greatest coffee concern in the world. But he had not made the United States drink tea. The Great Atlantic & Pacific Tea Co. is proud of its tea business. From the auctions at Ceylon it buys huge quantities. But, unlike Sir Thomas Lipton, it does not own its own tea gardens. And whereas the Britisher drinks nine and one-half pounds of tea per capita, the Australian eight and one-fourth, the Irish seven and one-half, the Canadian five, the U. S. citizen still drinks only seven-eighths of a pound per capita.

The billion dollars

In fact, if you split up into rough divisions the billion dollars' worth of food which A & P sells yearly, tea comes at the bottom of the list. Here is the breakdown, roughly estimated:

Jars, packages, cans, misc.	$320,000,000
Fruits and vegetables (fresh)	150,000,000
Meats (in about 3,000 of the 15,500 stores)	100,000,000
Butter	75,000,000
Sugar	60,000,000
Coffee	60,000,000
Eggs	50,000,000
Bread	45,000,000
Tobacco	40,000,000
Soap	40,000,000
Milk	25,000,000
Flour	25,000,000
Tea	10,000,000
	$1,000,000,000

To get all this food and drink to the right place at the right time so that each of the 5,000,000 families will daily make its sixty-five-cent purchase, is, needless to say, a triumph of organization, for which, in a war, all the orders of all the crowned heads would be pinned on somebody's breast. Among the phases of this organizing triumph, great is the synchronization of coffee (see page 48). But greatest of all, perhaps, is the triumph of the aforementioned subsidiary: Atlantic Commission Co.

Master of American Map

It is first of all a buyer, choosing fresh vegetables from truck gardens all over the country. It often becomes a packer and shipper; but where growers' coöperatives exist, as in the case of oranges (Sunkist in California; Sealdsweet, Blue Goose, Indian River in Florida), the company buys goods already packed. It then becomes both consignor and consignee, shipping carload lots to its various warehouses, specially equipped with refrigerating and heating devices, and corresponding geographically to fifty-two A & P warehouses. The two sets of warehouses are seldom under the same roof, but almost always in the same cities. The vegetables are transferred from the freight siding to the commission company's warehouse, where the chameleon-phœnix is broker, commission merchant, jobber, wholesaler. The food is sorted, the orders of individual stores are filled, charged, consigned, loaded on trucks which deposit them at the A & P stores in the morning before the manager's alarm clock has stopped ringing.

In its intense desire to eliminate unnecessary profits on goods between the field and the shelf, the Atlantic Commission Co. has mastered the great American garden. Unless the difference in season requires it, potatoes from the Kaw Valley of Kansas are not shipped to Grand Rapids where potatoes grow; nor are onions from near Grand Rapids shipped to Dallas, where onions are plentiful. By shifting vegetables around, a continuous supply of them is obtained throughout the winter, but theoretically Dallas onions supply the southern division only. Each A & P division of the American garden is self-supporting to an amazing degree, in its season. But items like the sleek green watermelons of Georgia and Florida, the great shaggy potatoes of Idaho, the lazy tomatoes of western Tennessee and Arkansas, the Oregon broccoli, the princely Oregon apples, the sturdy New England apples about which Robert Frost rimed, and the bitter cranberries of the Massachusetts cape are examined, purchased, and shunted around the country in an economic strategy of which Nature never dreamed.

The Atlantic Commission Company may perform miracles of distribution; the American Coffee Corp. may be wonderful in scope and scale; the Quaker Maid Co. may perform incredible conjuring with bottles and tin cans. But these cannot detract from the awesome achievements of the parent company. Its various feats demand various tributes, but in the staggering international task of assembling and consigning all its imports and domestic staples it has earned another title—Master of the American Map. In the final estimate, and no matter how sensitive one's ears may be to hyperbole, the name of the Great Atlantic and Pacific Tea Co. can by no means seem too grandiose.

Mainly it has become what it is simply by growing—one little store after another. But there was one year, 1925, when the giant took special cognizance of its size and shaped itself into its present form. In that year was formed the great produce subsidiary which we have described. And about that time, the management of the stores was divided into geographical divisions. These autonomous divisions, subject only to the Hartford rule, have headquarters at Boston, New York, Pittsburgh, Detroit, Chicago, and Philadelphia (for all the South). Only this year a new nucleus began in Los Angeles. There is still a huge geographical gap: the Great Basin (from Kansas to California) is peopled with many another chain, but not A & P. At the head of each division and of various central activities, there are, of course, a great number of skilled merchants and organizers. It is notable that nearly all have risen from the ranks. Of the six divisional presidents, four started in white aprons, one as an errand boy without even an apron.

Also, from about 1925 may be dated another change. Beginning then, stores were remodeled, enlarged, moved to more economical locations and, above all, adjusted to their communities. Thus, in Ardmore, Pennsylvania, "richest township in the United States," an A & P *de luxe* store has been developed with fluffy pastry, caviar, crabs, wicker furniture. Except for its red façade, the Ardmore store bears little resemblance to the A & P at Second Avenue and Twenty-second Street, New York, or even to that at Fairfield, Connecticut, which is described in minute detail on page 41. So, to its basic principles of price reduction by rapid turnover and the elimination of middle profits, A & P has added another: adjustment to the public taste. It would not be surprising if the skillful execution of this policy became the source of its greatest strength. Not only in its competition with the Indedendent. But the manufacturer may discover that if A & P becomes Master of the American Taste as well as of the American Map, then A & P's terms become, practically, Economic Law. And, doing unto others as it would be done by, A & P may graciously permit the manufacturer to make 2.49 cents on the dollar, even as A & P.

SHEEP DISCOVERED THE STIMULATING QUALITY OF THE COFFEE BEAN

BU LINGA
UBLIC
LIB.

STONES AND DIRT SINK. BERRIES FLOAT OVER THE DAM-LIKE OPENING

BURLINGAME
PUBLIC
LIB.

FROM FIFTEEN TO TWENTY-FOUR DAYS THE COFFEE LIES IN THE SUN, IS RAKED AND STIRRED REGULARLY

INTO EACH BAG ARE PUT 132 POUNDS OF COFFEE, WHICH THEN GO TO A WAREHOUSE TO WAIT FOR A BUYER

BRAZIL IS ALMOST BURIED, ECONOMICALLY, UNDER THOUSANDS OF BAGS OF COFFEE

A & P Coffee

Is the *only* coffee bought from producers and sold to consumers by a single company.

THE A & P is the greatest coffee merchant in the world. And to be the greatest coffee merchant in the world is to stand at the center of the food industry. Any grocer will tell you that the three basic commodities in his store are eggs, butter, and coffee. If the eggs are good and the butter is good and, above all, if the coffee is good, the customers will return for more. And they will take the canned soup and the noodles with them.

Last winter A & P customers began buying coffee in quantities theretofore unknown in the trade. They bought 1,000,000 pounds a week more than they had been buying—an increase of 30 per cent in the sales of the company. They bought not only *Eight O'Clock* (A & P's lowest priced) and *Red Circle*, but *Bokar*, the pride of the roasting plants. And they kept on buying.

The reason was not that A & P's coffee-tasters had developed more subtle palates and a more delectable brand. But simply that the price of A & P's coffees had fallen because the A & P promptly gave the public benefit of the falling market prices. And the reason for that was Brazil.

Back of this spectacular price cut was the threatened tragedy of an entire people, and its purpose was not to absorb the coffee trade (though A & P has no reluctance to an increase in its own sales) but to sell more coffee. It was, and it still may be, the conviction of Mr. Berent Friele, president of the American Coffee Corporation, subsidiary of A & P, that the consumption of coffee in America could be increased, that lower prices would increase it, and that greater exports at lower prices would take the strain off the warehouse girders and the bank statements of Sao Paulo.

What had happened in Brazil had been happening for a long time—since 1888 to be exact. No one knows when coffee came to South America. Legend in Brazil has fixed upon the year 1727. It was in that century that the shrub, which first came to human notice through its power of intoxicating sheep, was transported from Batavia to Amsterdam and to the Jardin des Plantes in Paris. It came to the new world by way of Martinique and French Guiana. And it quickly established itself in the state of Sao Paulo in Brazil. In 1888, with the abolition of slavery in that nation and the importation of cheap labor from Italy, trouble began. There were shortly 40,000 plantations, crops increased, prices declined. By 1925, overproduction had reached such a point that the Sao Paulo Coffee Institute was created to store coffee in the interior at the planters' risk and lend money to the planters on the security of warehouse holdings. But though the market steadied for a time, the carry-over after the 1927-28 crop was 11,672,000 bags (half the world consumption for a year); and the 1929-30 crop was estimated in the fall of 1929 at 22,000,000 bags with a carry-over as of July 1, 1930 of 18,000,000 bags. Which meant that the planters could not be paid for the 1929 crop for almost two years and that $315,000,000 worth (at the then price) of coffee was tied up with loans on much of it at 9 per cent.

Consequently it was not altogether wonderful that the Sao Paulo coffee market collapsed after the stock market break in New York. The Secretary of Finance of Sao Paulo and head of the Coffee Institute resigned, rumors (which were rumors) were circulated in New York to the effect that the banks in Sao Paulo had refused further loans, and the renewal of a large English loan to the State was in doubt. At this juncture J. Henry Schroder of New York, Baring Brothers of London, and Rothschild of London agreed to underwrite a $97,330,000 bond

Cameragrams
JAMES CASH PENNEY
(*Department Stores*)

Blank-Stoller
GEORGE K. MORROW
(*Cigars, Cigarettes*)

Underwood & Underwood
LOUIS K. LIGGETT
(*Drugs*)

issue secured by 16,500,000 bags of coffee in Brazilian warehouses valued at $198,000,000. The Coffee Institute hands over its authority to the bankers on July 1, 1930, the world is to drink more coffee, and the Brazilian planter is to grow less and ultimately the price of coffee is to find its natural level.

But in the meantime and until the bankers take control, the price of Brazilian coffee is low. And it is this collapse in value which is reflected in the A & P stores. The American Coffee Corporation is the only coffee dealer which purchases its own coffee in South America, imports it, roasts it, and sells it itself. It has twenty-seven offices in Colombia in direct contact with planters and in a position to supervise crops; in Brazil, where coffee can legally be released for export at only two points, Rio de Janeiro and Santos, it has buying offices at those two points and attempts through them a certain direct contact with the planters. A & P purchases directly in the belief that it can thus secure personal supervision of grades and the maximum of economy. General Foods (Maxwell House), Chase & Sanborn, etc., purchase through local brokers who are constantly in the market, in the belief they can buy at least as inexpensively in that way. The difference is one of business judgment and practice.

A & P at once began to buy cheaper coffees and ship them to New York, Boston, and New Orleans, from which points the green coffee is carried directly to its eight roasting plants. To avoid two separate transportation charges (dock to plants and plants to storehouses), A & P has induced the railroads to publish regulations by which a through rate for coffee applies from port to warehouse with a stop-over privilege for roasting in transit.

And the cheaper coffees were put on sale. *Bokar* dropped 30 per cent and *Eight O'Clock* and *Red Circle* dropped accordingly. All these brands were sold at 15 to 20 per cent below the prices charged by competing brands of comparable quality. And A & P coffee sales soared.

The reason for the difference in price is not far to seek. A & P are retailers of coffee as well as roasters of coffee. Maxwell House and the rest are roasters only and retail, *inter alia*, through the A & P. In accordance with the time-honored custom of grocers by which coffee is the bait for other sales, A & P were willing to forego their roaster's profit, take their retailer's profit alone, and dazzle the world with cheap coffee.

Whether A & P will be able to continue to lead all its competitors in volume of sales depends ultimately on the answer to the question whether the coffee market has reached saturation point. If it has (and A & P is the only house to announce an increase in consumption since the break in prices, leaving it open to ask whether that increase has not been made at the expense of other brands) and if production remains where it is in Brazil (and it is easier to suggest the burning of trees than to decide whose trees are to be burned), then cheap coffee may have come to stay.

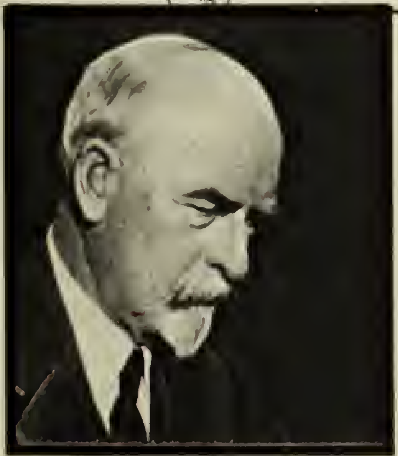
The real difficulty of comparing A & P and, say, Maxwell House is that as a coffee manufacturer, A & P is and always will be a grocer. And to the grocer coffee isn't coffee. It is the gate to soup.

Cameragrams
H. T. PARSON
(*Five & Ten*)

LINGA
PUBLIC
LIB.

WILLIAM A. BARBER
(*Restaurants*)

ELISHA WALKER
(*Banks*)



International
FRANK MELVILLE Jr.
(*Shoes*)

A & P, with its 15,500 outlets, is the biggest chain in the biggest of all U. S. businesses—food. But chains are ubiquitous. On this page are pictured eight executives of the biggest chains in various retail businesses:

J. C. Penney Co.	1,430	department stores
United Cigar Stores Co.	1,020	United-owned cigar stores
	2,000	agencies in drug stores, etc.
	149	Whalen drug stores
	65	Neve " "
	56	Happiness (candy and soda fountain) stores
	16	Mirror " " " "
Drug Inc.	669	Liggett drug stores in United States
	860	Boot " " England
	37	Liggett " " Canada
	10,000	agencies in United States
Melville Shoe Corp.	503	outlets—John Ward, Thom McAn, Traveler, Rival
F. W. Woolworth Co.	1,825	five and ten stores in United States, Canada, and Cuba
	375	" " " " in England
	47	" " " " in Germany
Childs Co.	113	restaurants from coast to coast
Transamerica Corp.	240	banks
Seligman & Latz	103	beauty shops in U. S. department stores.

ISRAEL LATZ
(*Beauty Shops*)

Diamond in the Rough

Now comes Swedish Match, led by the brilliant Ivar Kreuger, to further complicate Diamond Match Company's problem.

"YOUR company's ten-year agency contract with the Swedish Match Company . . . expires December 31, 1930 . . . " Thus William Armstrong Fairburn to his stockholders last March.

" . . . the company is preparing for the manufacture in the United States of part of the matches heretofore imported from Europe . . . " Thus Ivar Kreuger to *his* stockholders in May.

Behind the dry formality of these statements can be detected an exceedingly alive situation. Mr. Fairburn and Herr Kreuger have been business associates for the past ten years. Mr. Fairburn is president of Diamond Match. Herr Kreuger is president of the gigantic $350,000,000 Swedish Match Trust, which sells matches and lends money to half the nations of Europe and to not a few outside of Europe. Mr. Fairburn and his company have been selling in this country the excellent safety matches made in Sweden by Herr Kreuger and his company. So efficient an agent has Mr. Fairburn been that today we import from Sweden practically our entire supply of safety matches. This agency agreement, it appears, is to be either terminated or largely restricted, and Swedish Match, through its subsidiary, the International Match Corporation, is to set up its own plants in this country. Thus one dog more will jump into the dog fight that is today the match industry.

Dog fight

Swedish Match would be a very large dog indeed to enter the fight. It would dwarf Diamond as Diamond dwarfs its American competitors. At present Diamond surveys its less responsible competition with somewhat the disdain that a mastiff shows for a snarling pack of mongrel curs. It deplores the irresponsible tactics of the fly-by-night, hole-in-the-wall matchmakers that spring up, flourish, and go out of business with distressing regularity. And the curs, in turn, snap back at the insolent might of Diamond with price cuts and underselling. They are not all curs, of course. A notable exception is Ohio Match, a pioneer in the air-conditioning system that enables modern match factories to operate summer as well as winter. Another is the newly formed Union Match which capitalized at $1,000,000, is already one of the big paper matchmakers, and will move into a new factory this July, and there are others. But many of the twenty-five U. S. matchmakers are small, opportunistic most dangerous to the industry's stability.

Twenty-five does not appear to be an excessive number of manufacturers, but it is too many for the match industry. Match machines are too prolific: one of them, not exceptional, can turn out 6,000,000 matches a day. So prolific are the machines that the manufacturers have a combined capacity equal to two and one-half times the actual consumption. Diamond alone could keep the country in matches. Though the machines are expensive and the field overcrowded, there are seven more matchmakers today than there were in 1925. When one adds to this the increasing threat from foreign competition (imports rose from about 5,000,000 gross in 1928 to 10,000,000 gross last year), one has roughly sketched an industry in which the competitive struggle is rapidly taking on the air of a dog fight.

A year ago a laudable effort was made to restore some semblance of order to the fight. The American Match Manufacturers Association was formed, with Diamond participating in but not leading the movement. A Will Hays-ian code of ethics was drawn up and subscribed to by twelve of the twenty-five American producers. But hard times came in the industry early this year, and the code cracked, groaned, and finally crumbled under the strain.

Retreat from Moscow

From this unprofitable hurly-burly Diamond is very sensibly beating a retreat. Its salesmen have long carried a line of toothpicks and clothespins along with their matches. Lately they have added Diamond golf tees, food containers, waxed paper, and even toilet paper (Softex and Ambassador). Diamond saws fence posts, structural lumber, as well as toothpicks out of its large timber tracts in California, Maine, Idaho, and other states. It owns forty lumber yards in the Sacramento Valley alone. Some $3,500,000 of investments in foreign match companies also softens the rigors of the retreat from the Moscow of matchmaking. Such outside activities have enabled Diamond to maintain of late years its honorable record of forty-one years without passing a dividend. Thus it comes about that Diamond, by far the largest and most powerful of American matchmakers, derives about 70 per cent of its income from other sources than making and selling matches. Thus, also, it comes about that Diamond's gross, slipping from $4,175,000, was yet above $3,000,000 in 1929.

The match

Foreign.—The safety match, thanks largely to the solvency of the Swedish Match Company and the insolvency of many a national government, is the only type of match used widely abroad. Sweden has a peculiar hold on the safety match; one Lundstrom invented it, and the great forests of Sweden are ideal sources of raw material. The Swedish aspen is so much superior to the American that almost no safety matches are made in this country, although Diamond makes a few—"for prestige and patriotism."

The Soviet is now turning out a flood of cheap safety matches. To get markets it does not scruple to practice "dumping," or drastically underselling its competitors in foreign lands. Last year's big importation of Soviet matches (now stopped by the government) did not help the domestic market. Another "dumper" of matches much detested by Swedish Match is Japan, which once renamed one of its small towns "Sweden" and proceeded to flood the American market with matches "Made in Sweden." Such trickery is also employed in imitating one or another of the 9,000 labels that Swedish Match uses in every corner of the globe. These labels are jealously guarded trade secrets before they appear. There are collectors who specialize in match-box labels and who pester Swedish Match with requests for new issues. Swedish Match has some clever labels, but the crown must go to a company which sold wax matches in Mexico. Sales were swelled by putting a picture of the Virgin of Guadalupe on the cover of the box. The wax matches were burned as tapers with the box serving as a convenient shrine.

Indigenous.—There are two species of matches indigenous to the United States and little used elsewhere. One is the strike-anywhere match, the big match with a colored tip that is used by farmers' wives to light the stove and by sportsmen to start their camp fires. Ohio Match turns out a good many, but Diamond is by far the largest producer. The second native product is the book or paper match that one receives with one's change over the cigar counter. This is not so much a match as it is an advertising medium. The manufacturer keeps a corps of salesmen to "sell space" on his covers. The offices of paper matchmakers are deluged with "ideas" for covers. Attempts have been made to fasten scratch pads, even small printed leaflets, to the cover.

Bel Geddes

Member of a new artistic generation, he regards industry as the opportunity of the age. In the process of evoking the natural beauty of industrial objects he begins with a question: what is a bed?

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THE rural storekeeper who stuffed his one forlorn show window with shoe laces, doilies, rhubarb, lawn mowers, corsets, and bicycle pumps was not one whit more innocent than the mighty Fifth Avenue merchants of a decade ago. Both pursued the same policy of window-dressing. Both thought that a great congeries of goods was the means of catching and keeping the shopper's eye, that if he did not fancy the pastries in the foreground he would in all probability be unable to resist the rubber boots suspended in the rear.

It was in the midst of show windows overladen in accordance with this theory that the Yuletide hordes of 1928 proceeded up and down Fifth Avenue. Proceeded, that is, until they arrived at Thirty-eighth Street. There, on the west side of the avenue, such a coagulation of rubberneckers occurred that west side foot traffic was practically at a standstill, and inquisitive persons on the east side quickly crossed the street. Those who were able to penetrate the crowd were amazed to find their neighbors merely gaping into a Franklin Simon window.

By all the window-dressing tenets of that time, the window must have contained such a galaxy as to represent the entire contents of the emporium. In reality, the mob was fascinated by a display of just three pieces of merchandise. Behind the enormous pane of glass was a strange, graceful bust sculptured of metal, wearing an Agnès turban and scarf of vermilion and navy blue. A matching hand bag rested on the circular glass platform which supported this glossy little motif. The exhibit was emphasized by concealed spotlights which cast grotesque shadows of the bust in the background, where great triangular shapes were arranged to focus attention on the display group.

The man responsible for the Franklin Simon triumph was an American named Norman Bel Geddes. "The window is the stage," said he, "and the merchandise the players." He may properly be referred to as a man-of-all-design. Just how properly will appear in the course of this discussion of his theories and work. In the meantime, it is not too early to begin to insist on the practical, utile, profitable quality of all the industrial designs which issue from the Geddes studio. He has long since left window-dressing commissions to his forty-odd assistants and is approaching the larger problems suggested by trains, automobiles, steamships, airplanes, theatres, restaurants, factories. But, just as he realized that qualitative window-dressing was bound to be not only more attractive but more inveigling than quantitative window-dressing, so in every industrial field he regards beauty, utility, and profit as mutually beneficial elements, as linked perhaps in a fundamental unity.

It is a nice conception which has seduced philosophers but made only the most diverse and uncertain headway among esthetes and business men. To be sure, the boorish era when business men were unanimously contemptuous of esthetes, and vice versa, is long past. Friedsams, Baches, and Dales devote much of their enthusiasm and no little of their money to the collection of Rembrandts, Titians, and Picassos. Many business men apply their esthetic interest to their enterprises, which they conduct from lavishly furnished offices, Jacobean or Tudor or Empire. Skillful traditional architects are continually investing skyscrapers, stores, and industrial plants with Gothic tracery or the classical orders. For their part, numberless painters, poets, even musicians are fascinated by the dynamic values of industry (Honegger's musical interpretation of a locomotive in his *Pacific 231* is among the most extraordinary cases in point).

But by far the greater number of esthetes persist in their snobbish insistence that all true art is remote from considerations of profit, their fetish of "art for art's sake," their continual, denunciatory application of the term "commercial artist." And those tasteful industrialists who enfold their activities in fine architecture and decoration almost invariably utilize the styles of the past. Because they *are* styles of the past, and not naturally derived from modern conditions, their application to modern buildings cannot help but be a process of superficial adornment. Thus the largest insurance building in New York (New York Life) and the largest newspaper building in Chicago (Chicago *Tribune*) reveal the anomaly of a steel skeleton structure expensively encrusted with Gothic ornamental forms, forms developed in an age when stone carving was the natural rule and not the extravagant exception.

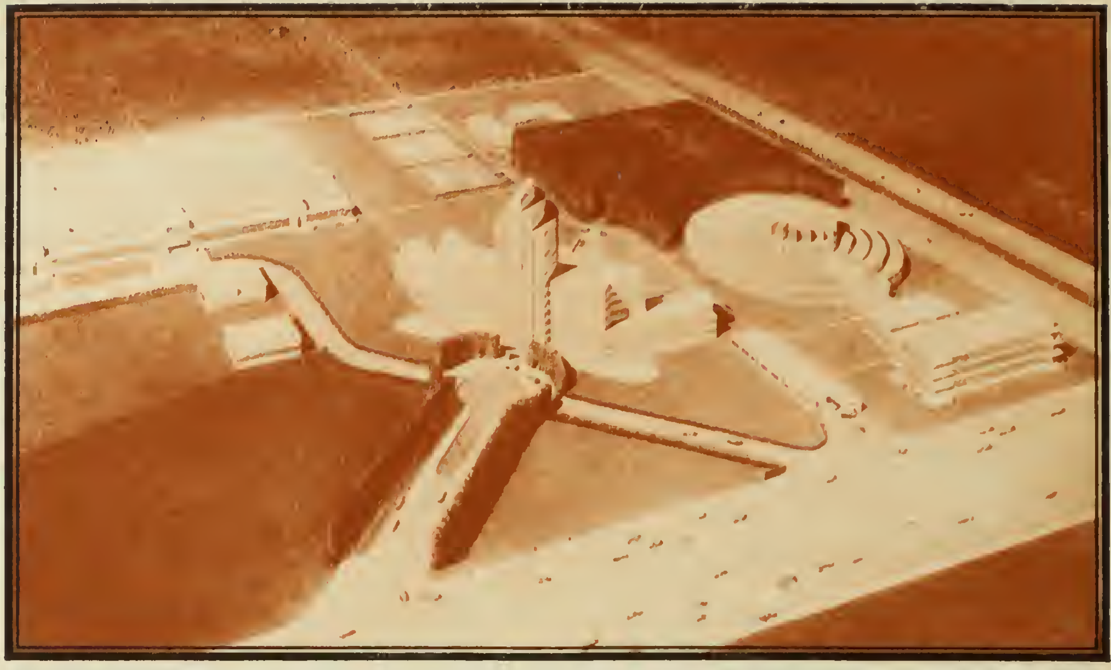
In the past few decades, however, there has matured a generation of artists who not only perceive a connection between beauty, efficiency, and profit, but who insist that these attributes go hand in hand. As an obvious corollary they believe that real industrial beauty should arise out of efficient and profitable activities of the moment, should not be merely an artificial patine applied to industry from the esthetic legacies of the past. To industrialists these men bring a new conception of the significance and value of beauty, a conception to which they may well give heed.

In the first place, the eyes and ideals of this new artistic generation are fixed not on the past, not on the re-creation of archaic esthetic forms or the adaptation of these archaisms to modern conditions, but strictly on the present. They have observed, with a logic which seems inescapable, that any modern estheticism must embrace the machine with all its innuendos. In an age of cogs, cams, and crankshafts, the esthetic fabric will be as closely allied with such mechanism as was the Gothic fabric with whittling and carving tools or the Egyptian fabric with slave labor.

The natural consequences of this question are to be found particularly on the Continent, where the new generation has made the most progress. Such architects as Le Corbusier and Lurçat of France and J. J. P. Oud of Holland pride themselves as much on the stripped economy of their houses, which seem to the uninitiate like a structural geometry of metal, glass, and stone, as did the medieval architects on the teeming floridity of their cathedrals. In 1921 Oud expressed his theories thus (quotation from Henry-Russell Hitchcock's *Modern Architecture*): "In place of the natural charm of walls and roofs of rough materials, unstable in their plasticity and uncertainly patined; in place of windows cut into small panes, nebulously glazed and irregularly coloured; a new architecture will offer us the definite values of artificial materials, surfaces polished and finished, the scintillation of steel and the brilliance of paint, the transparent openness of large windows of plate glass . . . Architectural evolution thus will lead us toward a style that will appear liberated from matter, although it is joined with it more completely than ever. Disengaged from all impressionistic sentimentality; dependent on clear proportions, frank colours, plainly organic forms; divested of all that is superfluous; the new architecture will be able to outvie even Classical limpidity."

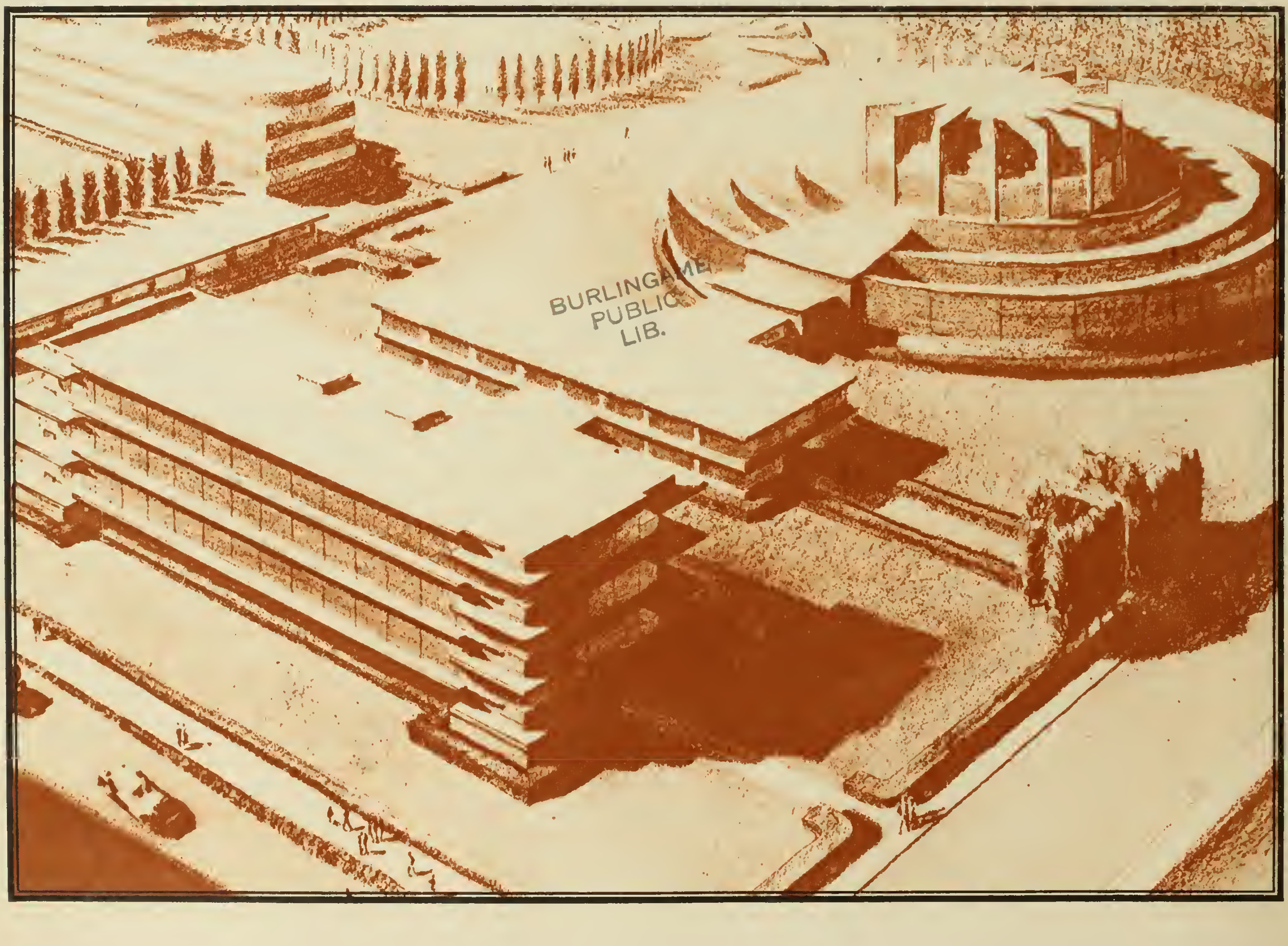
Thus the beauty of a structure perfectly adapted to its purpose and time has again become an ideal, after a period in which Connecticut mansions were often Mediterranean in aspect and bogus French châteaux thrust their northern spires through the woods of the Carolinas.

Norman Bel Geddes is among the most gifted American interpreters of this new ideal; his work in an extraordinary variety of fields may be considered as representative of the lot. Significant is the fact that he turned to industrial problems after successful beginnings as a portrait painter of such persons as Enrico Caruso, Ernestine Schumann-Heink, Brand Whitlock, Amelita Galli-Curci, and great accomplishments as a stage designer of such productions as *Ermine*, *Truth About Blayds*, *Lady Be Good*, Eugene O'Neill's *Lazarus Laughed*, *Five O'Clock Girl*, and *The Miracle*. During the past season his brisk evocations of Paris embellished the popular *Fifty Million Frenchmen*. When his production of Aristophanes' *Lysistrata* opened in Philadelphia the customarily facetious Robert Benchley declared in the *New Yorker:* "Mr. Geddes has never done a more beautiful or exciting piece of staging. There are at least a dozen moments during the evening which take your breath away or bring tears to your eyes according to your personal reaction to beauty."



THE TOLEDO SCALE COMPANY. LEFT TO RIGHT, SCALES FACTORY, ADMINISTRATION BUILDING, PRECISION DEVICES GROUP. (BELOW) BIRD'S-EYE PERSPECTIVE OF THE PRECISION DEVICES GROUP

Yet his success in such ventures is not sufficient to divert Geddes from his central ambition. Primarily anxious is he to introduce his talents into the industrial world. He regards industry as the basic opportunity of the age in which he was born. In his converted brownstone house in the Murray Hill residential section, he undertakes to design anything, however humble, confident that he can



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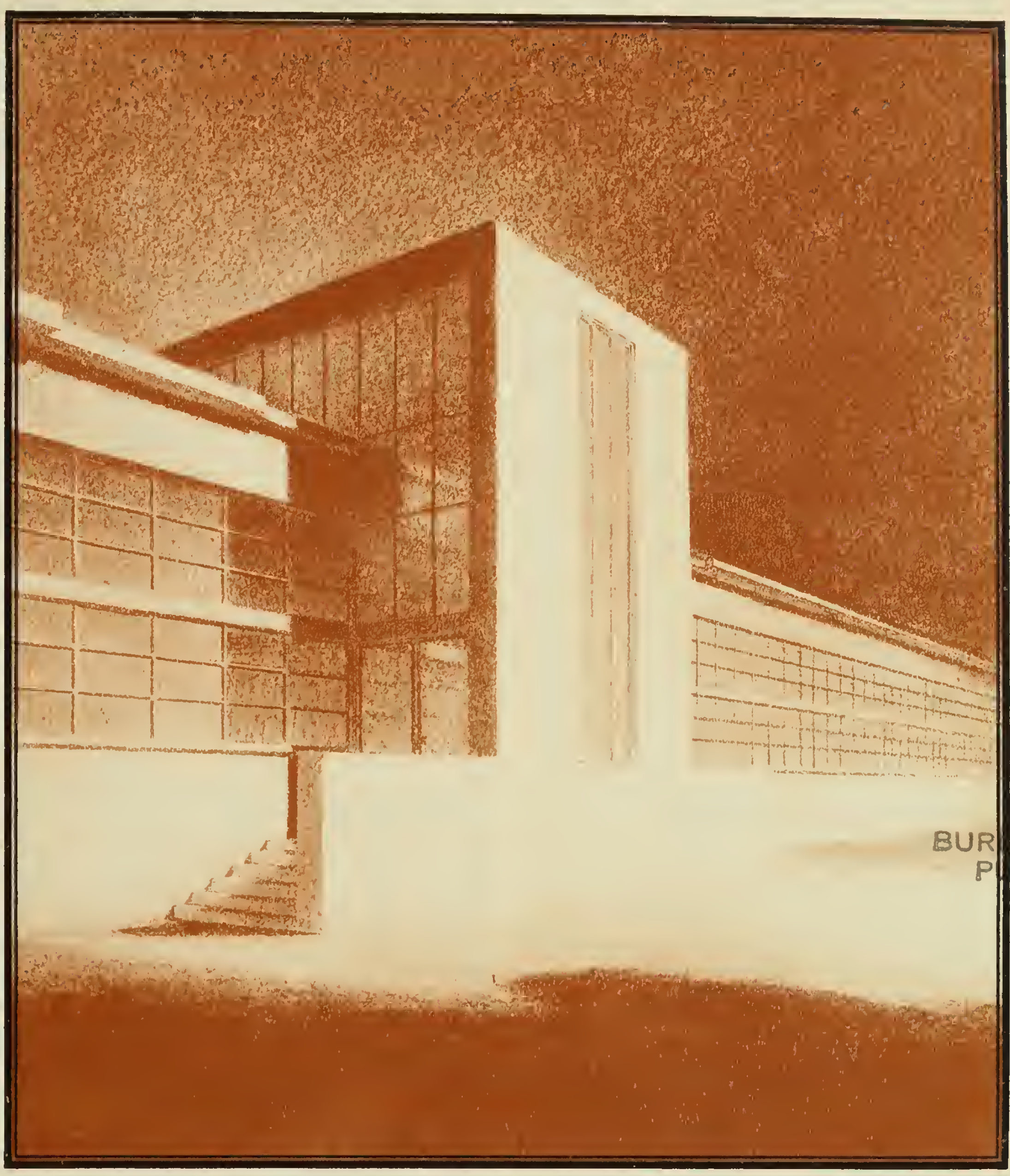
increase utility at the same time that he increases visual pleasure in the object.

A simple subject—a bed—is illustrative of the manner in which Geddes approaches his task. He does not begin by considering the beds of history and, after the fashion of his predecessors, devising merely another picturesque bower of linen. Instead, with truly Socratic curiosity, he asks himself the fundamental questions: What is a bed? What is the most satisfactory bed which can be imagined? Manifestly, it would consist of the simplest possible horizontal and perpendicular sections, perhaps moulded out of one sheet of metal, certainly devoid of extraneous detail such as legs and bedposts. This answer, as rendered by the Simmons Company from Geddes' designs, seems peculiarly felicitous. Such beds have many palpable advantages. Simple and rugged, they combine ease of manufacture and maximum economy of material (Simmons makes them from discarded railroad rails). They cannot be imagined as either breaking or creaking. They are easily dusted, dismantled, moved. Ramifications in the form of bookshelves and cabinets may be shaped in the metal sections, forming units which a woodworker could not equal in simplicity or strength. Production costs, and therefore prices, are low. The beds possess sheer, graceful lines and the fine sheen of metal which may be variously tinted (because he insists on utilizing the intrinsic beauties of a material, Geddes scorns the painting of metal furniture in imitation of woodwork). To many, the esthetic superiority of such structures over pseudo-Empire and quasi-Heppelwhite divans seems obvious.

Thus does Norman Bel Geddes concentrate on need rather than fancy. A more elaborate example is his assembly hall for the J. Walter Thompson offices in Manhattan. The specifications demanded a formal chamber to be used for lectures before 200 persons, small directorial conferences, informal teas and luncheons, cinema performances, exhibitions of advertising layouts involving such sizable displays as twenty-four-sheet posters. The space assigned was two floors in height, located high in the Graybar Building, with but one exterior wall. Manifestly, Geddes might have made this contract an excuse for sumptuous and expensive decoration. But, as with the bed, he determined to evoke a natural decoration out of the functional necessities. Therefore the room contains no murals, tapestries, or other arbitrary ornament. Natural patterns are formed by the pale gray walls broken on one side by a series of tall, slim windows, and on the other by corresponding pilasters which support adjustable brass racks from which advertising sheets may be hung at any elevation. Another pattern is formed by bands of translucent glass which traverse the ceiling, emitting indirect light in any desired intensity, another by bronze grilles in the window recesses which screen the heating and ventilating systems, another by great, serried chairs of blue-green tapestry with expansive arms for note-taking. The entire auditorium may be focused on a lectern, a triangular plinth of ebony which conceals a loud-speaker, or recomposed to suit a dozen other circumstances. It is a room of impressive plane surfaces, restfully colored, supremely comfortable, completely modern.

It is to be noted that the work of Geddes, although it emphasizes the straight line and



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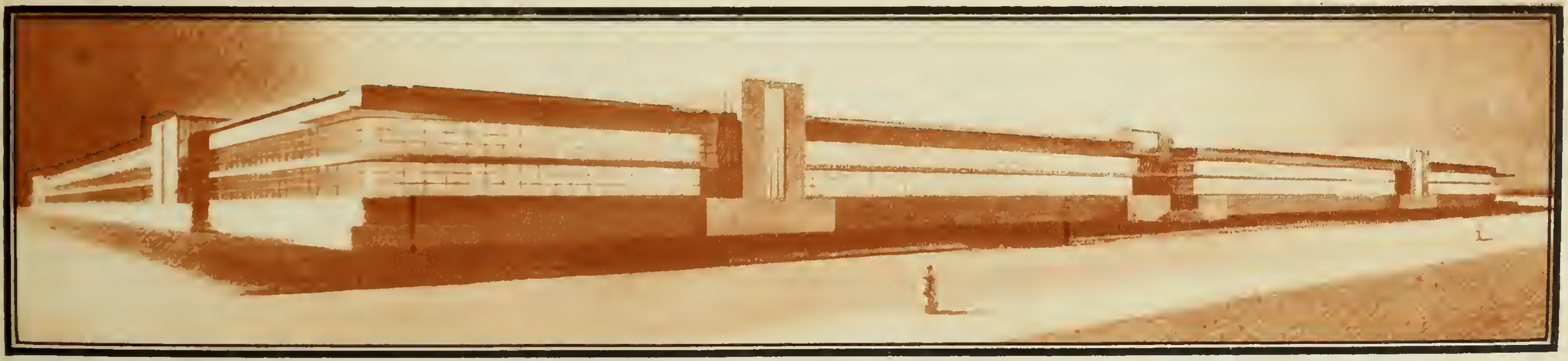
DETAIL OF THE SCALES FACTORY. (BELOW) PERSPECTIVE OF THE SCALES FACTORY



such curvilinear formations as lend themselves to easy construction, does not include the senseless complexity of geometrical and rhomboidal forms which characterizes the so-called "modernistic" vogue. Of this tendency, which antagonizes many who like graceful, meaningful contours, Geddes says: "Modernism at the moment consists largely of a lot of angular gadgets on boxy looking furniture that is not so different in appearance from what used to be called Mission furniture, painted in nursery colors . . . Only the best of anything survives—the greater part of the stuff we are now seeing is of the cheapest, most vulgar sort, 95 per cent of which will have disappeared entirely in five years." His own work is singularly free of "angular gadgets"—the purposes and advantages of his details are quite apparent, so apparent that in many instances one wonders why they have not been previously conceived.

In the very fact that they have not lies what is perhaps the greatest significance for industrialists of men of Geddes' stripe. There are indubitably several ways to sell gas stoves. One is to employ superior salesmen. Another is to build superior gas stoves. The best sales device would undoubtedly be a combination of the two. Yet industry has in general concentrated on the first, neglected the second, and all but omitted the third. "Results!" has been its rallying cry. To that end it has employed salesmen to get results, statisticians to compile results, and economists to ponder results. Unquestionably gas stoves can be sold by this policy. But in the fervid pursuance of the policy industry has tended to forget its stoves. To be sure, it has watched its competitors, has incorporated their improvements in its own stoves, has perhaps been to some pains to keep a step ahead of competition. But always its chief concern has been with sales analysis rather than with stove analysis.

The industrialist is an extravert, an expert in the external world of contacts and contracts. Because his skill finds its natural employment in the extravert's world, he cannot be reproached if he himself neglects his product, merely providing that it shall be kept "up-to-date" or at least as "up-to-date" as that of his rivals. But there are others prepared to do that for which he has neither the talent nor the leisure—craftsmen who will examine his product with detached, speculative gaze, will judge of its requisites and possibilities abstractedly, and very probably re-create it in a new, more utile, more viable form. As the late Luther Burbank toyed with tendrils, wax, and pruning shears, devising unimaginable, lovely, and useful blooms out of the stuff of organic evolution, so the creative designer refuses to be satisfied with the blundering, half-haphazard evolution of man's handiwork and evolves forms of new charm and effectiveness. The industrialist may not care whether his product can be reformed in fresh and more beautiful aspects, but he is indeed blameworthy if he neglects the business implications of those aspects.

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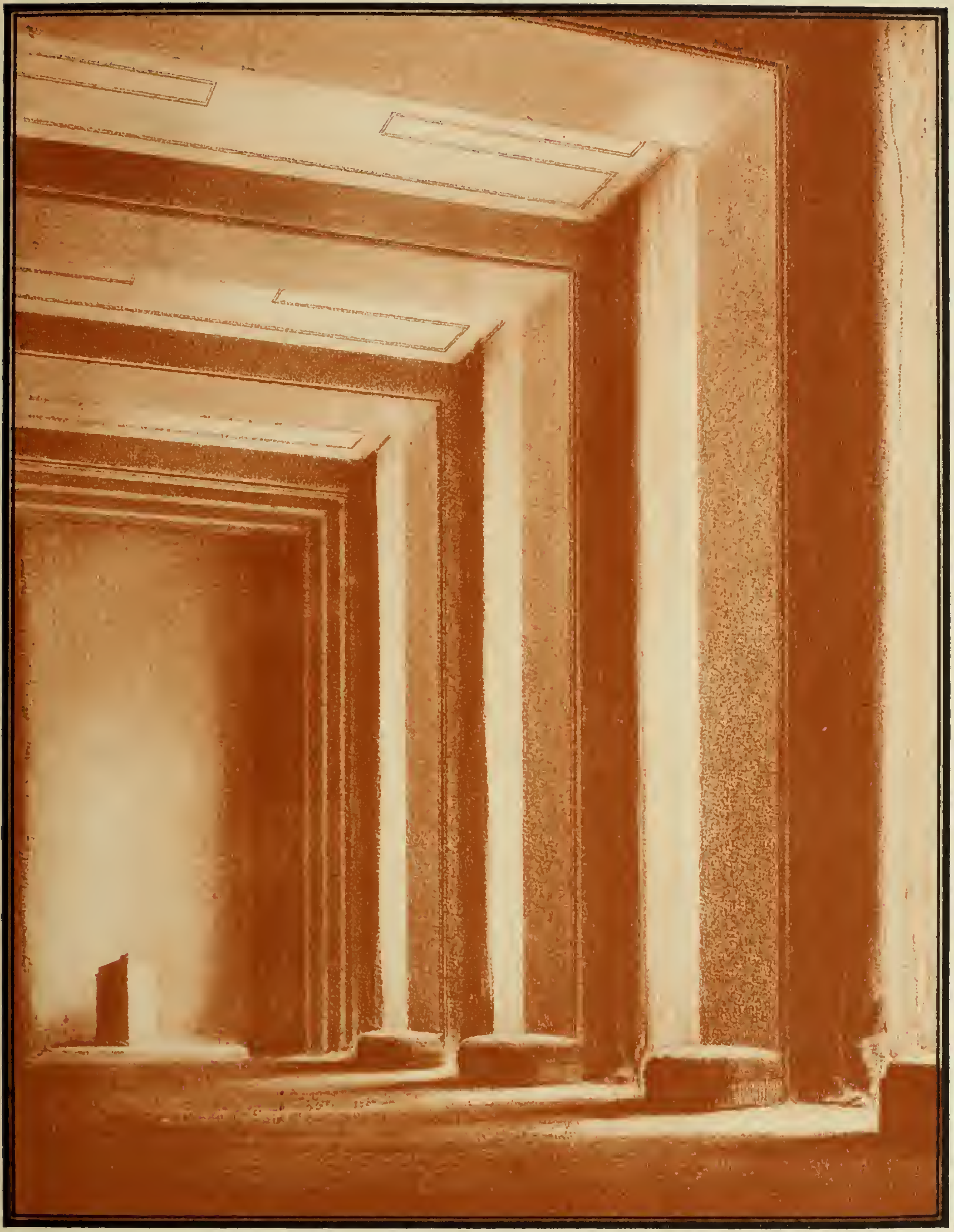
MR. J. WALTER THOMPSON'S ASSEMBLY ROOM . . .

The extent to which the appearance and utility of products may be improved in ways unforeseen and unpredictable by their entrepreneurs is vividly demonstrated in the field of transportation. The designs for the new North German Lloyd liners *Bremen* and *Europa* were supervised by German draftsmen of the most modern tendencies. When they appeared on the seas, their rakish hull structure, streamlined superstructure, and wind-breaking funnels immediately set new standards in naval architecture. Giant ships like the *Berengaria*, the *Leviathan*, and the *Ile de France* seemed suddenly squat, square, ponderous. To a certain extent they had been outmoded, not only esthetically but in efficiency as well. There can be no doubt that the high speed attained by the Lloyd twins is greatly facilitated by the lessening of wind resistance due to their improved contours. And speed is only one element which attracts voyagers. There is also the inward modernity of the vessels, the intangible allurement of the latest developments in maritime luxury (in this regard the *Ile de France* may be said to equal the Lloyd liners). Here, of course, the factors of interior decoration and equipment come into play—modernistic saloons so rich and stately that they cannot be conceived as faddish, various helpful devices such as deck diagrams upon which the path to any section of the ship is illuminated at the touch of a button. Such features delight and profit both the steamship men and their clients. Norman Bel Geddes inquires why they were not customary ten years ago. No technical considerations interfered. And he gives his own answer—commercial specialists have been slow and reluctant to entrust certain aspects of their business to imaginative specialists. Going further, he declares that the possibilities of modern



. . . HAS VARIOUS ASPECTS AND PURPOSES

design have scarcely been touched, that imagination has not even begun to appreciate its own scope.

A similar history is to be observed in the case of locomotives and railway cars. "Airplanes, automobiles, ocean liners, and railway trains," says Geddes, "all have the problem of cutting down air resistance, and the only one of the four that conscientiously attacks the problem is the airplane." Anyone who has ever scrutinized a steam locomotive or a stolid, blocky electric engine will agree that they exhibit little if any conscious attempt to eliminate wind resistance. Yet the burnished projectiles in which such daredevils as Major Segrave assault the automobile speed records are eloquent proof that efforts to diminish wind resistance inevitably raise the esthetic quotient.

Railway cars present a different and even more startling example of negligence. No one needs to be told that what comfort they offer is only rudimentary. Geddes points out that in interior finish they are still survivals of the early days when they were in fact nothing more than wooden carriages on rails (they are still referred to as coaches or carriages). Rendered for the most part in steel, gloomily and absurdly painted to look like woodwork, they provide as little pleasure to the eye as they do to the spine. The fact that railway travel is largely a necessity, that people are therefore forced to ride in whatever vehicle is provided, makes it possible for many railways to ignore the possibilities of more appealing rolling stock. In crowded areas, however, where two or more railways serve the same cities, a competitive advantage would surely be gained by that which furbished its cars with an efficiency psychological as well as vehicular, seeing beyond the bald need of transporting certain numbers of people to certain places at certain times.

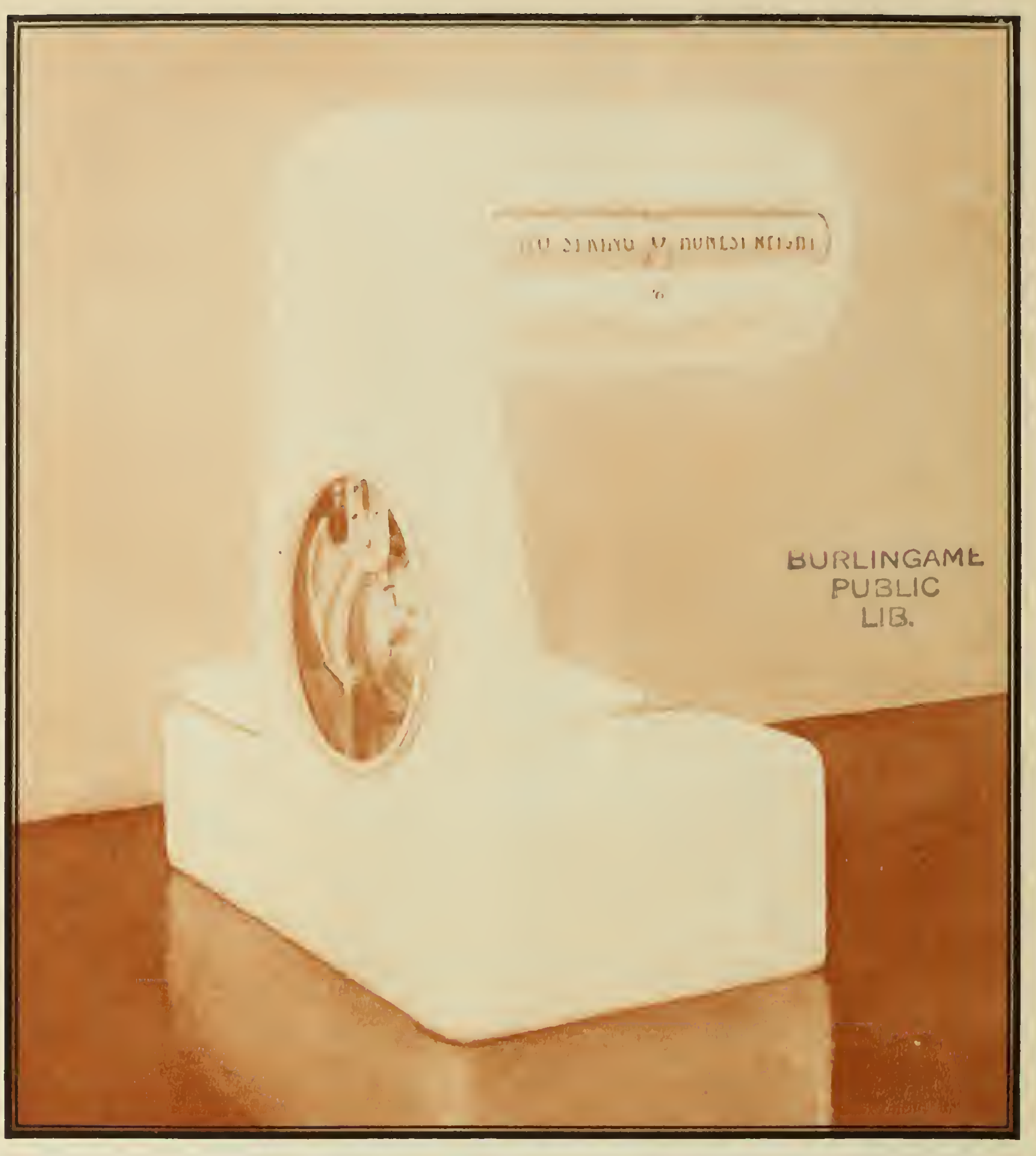
The automobile also retains much of its indebtedness to the antique principles of coach-making. Three years ago Geddes began studying automotive problems. He decided that "automobiles have always been designed from the motor outwards . . . whatever grace and beauty they possessed came as an afterthought." Employing the formulas of aërodynamics, he devised a body streamlined as absolutely as possible. Engineers told him that, if built upon an ordinary chassis, it would permit of a velocity of 62 m.p.h. when the motor speed was sufficient to propel the same chassis with an ordinary body at 45 m.p.h. His own judgment convinced Geddes that the public, slow to adjust itself to new impressions, would bridle at his extreme design, which was in essence a vehicular airfoil. Hence he called it Car No. 5, implying that it was a precocious model, five years ahead of its time. Working backwards, with successive modifications he produced Car No. 4, Car No. 3, and finally Car No. 1, which he believes the public will accept at the present time. This design is the basis of a new series projected by a prominent automobile manufacturer. So obvious are some of its unprecedented features, so easily copied, that Geddes is obliged to withhold its details.

The imaginative originality indispensable in any designer who would do more than merely elaborate conventional forms is strikingly illustrated by Geddes' suggestions as consultant to the architectural commission of the Chicago World's Fair of 1933. He hopes that a dramatic arrangement of the fairgrounds, preferably in the form of one great amphitheatre, may be effected, so that the spectator's interest is heightened as he turns each new corner, scans each new vista. Among the Geddes schemes: a water pageant theatre in which the 1,500 choicest seats are located in floating canoes; an aquarium restaurant whose walls and ceiling consist of glass tanks brimming with fish; a gigantic *al fresco* cabaret threaded with tunnels which serve to conceal the scurrying waiters and provide rambling platforms upon which the entertainers may perform in any section of the vast enclosure; an aërial restaurant revolving on a steel shaft, offering a changing panorama of Chicago from a height of 275 feet.

The festal character of these ideas obviously eliminates them from the serious consideration of the industrialist, although he might well take to heart the ingenuity they express. To industrialists Geddes can offer no more convincing example of his whole function and method than his work for the Toledo Scale Company. Commissioned to redesign Toledo scales, he sent his assistants into great metropolitan markets, into rural stores, where they talked scales with clerks and customers. Mulling over the evidence, studying the technical requirements, he realized that scales needed no complicated appendages, levers, external moving parts, awkward contours. But even he was surprised to discover that in the process of producing a simpler, more decorative scale, actual simplifications and improvements were arrived at in the inner mechanism of the instrument. True to the industrial type, the Toledo Scale Company had assumed their scales to be wholly satisfactory, had expended their greatest energy and ingenuity in the sales department. For them, Geddes struck a new balance between sales and scales.

President H. D. Bennett, of Toledo, may have been dubious about entrusting scale design to the inexperienced and suspiciously esthetic Geddes. But so impressed was he with the result that he engaged his scale designer to create an entirely new plant for the Toledo Scale Company and associated companies. He has been rewarded with such an exciting set of plans as has rarely ever been seen outside the most advanced industrial areas of Germany and Holland.

On an eighty-acre site Geddes has spread a porcelain factory, scale factory, central heating plant, administration building, laboratory, machine shop, flying field, swimming pool, children's playground with pool, wooded picnic plot, athletic field, and groups of hangars, garages, tennis courts. Intricate, lengthy, even dirty labors may be performed in the factory buildings, but they will adorn, not sully the countryside. Furthermore, those who perform the labors will enjoy a maximum of light, cleanliness, and convenience. Designed to accommodate the Toledo Scale Company's new mass production machinery, the buildings are great, suave geometrical forms with walls composed almost entirely of glass. The prevailing lines are horizontal; the group has a sleek grace which should make it as much the object of public inspection as Toledo's public buildings or monuments. Representing the Geddes method on an heroic scale, each building has been planned not only with regard to its specific function but with regard for the inconceivable developments of the future. The present and future utility of the plant may be said to be built into its architecture. Columns and barriers have been minimized to permit of easy departmental rearrangement and the relocation of machinery. A service basement extending under the entire manufacturing area permits of such changes without inconvenience to the manufacturing floor. Not the least significant is the fact that this modern hive will be far more economical to construct than its less efficient predecessors. Out of the needs of a particular industry, without resorting to superimposed ornament, Geddes has wrought an architectural organism which is thrilling and not repulsive to behold. Whether the thrill of this conscious, tasteful, superbly efficient arrangement of an industrial plant is truly esthetic, the individual must decide for himself. But there are many who feel that the industrial civilization is capable of producing a vibrant, distinctive art, and that Toledo's plant, now under construction, is an example and a harbinger.



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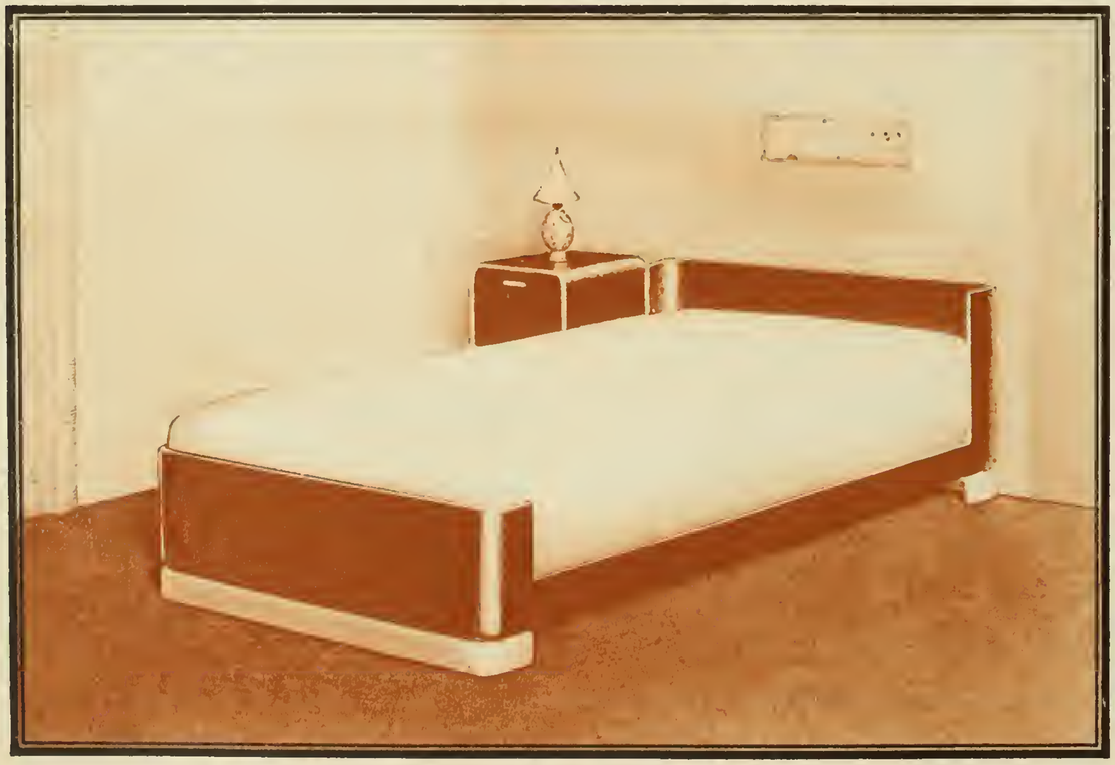
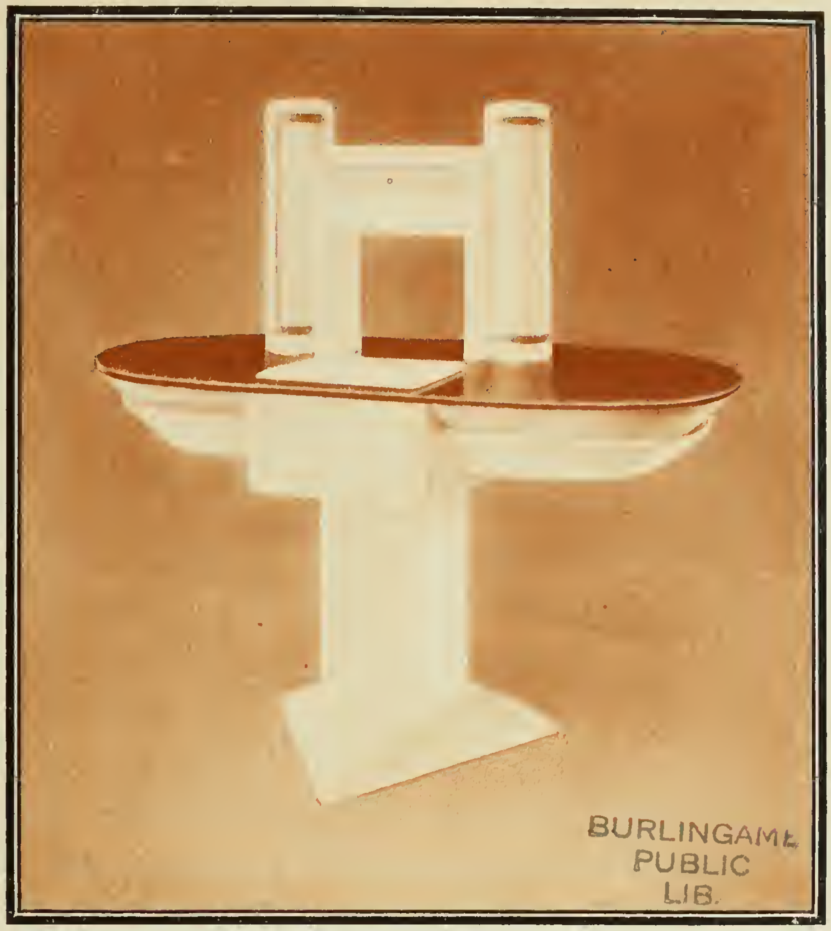
COUNTER SCALE. (BELOW) SIMMONS METAL BED



Advertiser & Artist

A portrait of Bel Geddes



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"ISLAND" WEIGHING SCALE. THE SCALE IS AN INTEGRAL PART OF THE COUNTER

IF you drove your Packard into a service station to have it overhauled and if the chunky, tousled figure of Norman Bel Geddes squirmed under the greasy chassis, you would not be in the least surprised. He suggests a machinist; he has the belligerent, impatient curiosity of many of the best of them. He suggests the small boy who wants to understand how everything works; in the case of Geddes this curiosity is magnified to include a vast terrain of human ideas and concerns. While devising his celebrated war game, which requires twenty-eight players, several months, and some 6,000 pieces for one series of hostilities, he studied naval strategy so intently that later, in the course of "battle," he frequently confuted an admiral in the U. S. Navy whom he had invited to participate in his miniature Jutlands and Heligolands. When the medieval mummeries of *The Miracle* were proposed, Geddes immured himself with innumerable treatises on the pointed style and emerged a learned Gothicist. From Jutland to Chartres is a long way, geographically and spiritually, but Geddes travels many such distances, from cook stoves to diadems, with absorptive mind and fecund imagination.

He was born in Adrian, Michigan, in the nineties. After early schooling such as any Michigander might receive, he attended the Cleveland School of Art and the Chicago Art Institute. Soon he met Henrik Lund, a Norwegian painter, who convinced him that academies were all very well for ornithology or comparative literature but had nothing whatever to do with art. Thus he abandoned the routine esthetic curriculum and began his interlude of portrait painting. But even the depiction of notable people is not very profitable for a youngster of twenty whose name has not yet begun to reverberate, who has a mother and a brother to support. So he went to work with Barnes-Crosby, advertising illustrators of Chicago, at a salary of $3.00 per week. He rose to be art director of a famous advertising agency. During this period he designed the squarish lettering familiar in the trade-mark and advertising of Dodge motor cars. Within a year his services as manager were sought by Barnes-Crosby, to whom he returned, aged twenty-one, to receive a salary of $400 per week.

In less than two years he executed some 3,000 drawings of a commercial nature, posters for Packard and General Motors, covers and illustrations for the *Saturday Evening Post*, *Collier's*, and other ranking publications. His reputation grew accordingly. A parallel growth was an overwhelming impulse to do stage design. He was released from Barnes-Crosby when the president discovered that Geddes spent most of his office hours dictating an Indian epic-drama called *Thunderbird* to the presidential secretary. And so, for what many might consider a whim, he renounced his advertising opportunities, nosed about a Detroit theatre, then departed to Los Angeles to join a stock company.

Five of his California productions gave him another sort of reputation. When the season was over he returned to New York as a protégé of Otto Kahn, under whose patronage he designed three productions for the Metropolitan. During the following year he designed sixteen Broadway theatricals. This was fourteen years ago.

His work in this vein totals some ninety operatic and theatrical contracts, including hundreds of articles of furniture and sets, thousands of costumes. He was the first stage craftsman to utilize lens lamps (spotlights) for general illumination. Combining them in batteries with rheostatic control of intensity, graded colors, and variable beam angles, he draped his stage in diaphanous shrouds of light. These light batteries he placed on the balcony railing, a procedure now universal in well-equipped theatres. For his Parisian production of *Jeanne d' Arc* with Eva Le Gallienne he built only one set, but by the manipulation of lights he made it represent a rural byway, the Dauphin's palace, an Orléans street, a gaol, the Cathedral of Rheims.

Many consider the apex of Geddes' dramatic conceptions to be his project for the staging of Dante's *Divine Comedy*. This drama is performed by tumultuous shadow shapes in a vast and somber saucer descending centrally into a black pit, ascending on its far borders into two mighty stalagmitic formations. Among other things, it involves an amazing, dynamic light program. During the early stages a diabolic illumination emanates from the pit. As the action progresses the source of light gradually rises until the scene is flooded from above. At the transcendent moment of conclusion the full, dazzling incandescence of the complete system is flashed directly into the eyes of the audience. Short of actual production, everything possible has been done to test the feasibility of these ideas; illuminated scale models have been photographed representing each progressive phase of the comedy. Collected in a book, they form one of the most impressive figments of modern stagecraft.

But from such esoteric concerns Geddes insists on returning to the utilitarian world. Anyone who has ever surveyed a great city from a lofty window or studied the busy labyrinths of industry from any comprehensive angle should be prepared to understand the impulse which eggs him on, which has made him subordinate even his theatrical devotion. Civilized man lives and works, for the most part, in a hideous earth-crust of his own devising. Myopically concerned with the problems of profit, he has overlooked the proposition that the greatest profit may be attendant upon beauty, that whatever is stupid or ugly cannot possibly be functionally superior. To this proposition Geddes is dedicated. With Santayana he might say: "The same manual restlessness and knack which makes a man a manufacturer of toys makes him, when by chance his toys prove useful, a manufacturer of implements. Fine art is thus older than servile labor, and the poetic quality of experience is more fundamental than its scientific value." Whichever is more fundamental, the work of Norman Bel Geddes is rapidly demonstrating that poetic qualities and scientific values may be combined for mutual benefit; that the sacrifice of one, indeed, means the diminution of the other.

Giants at Eddystone

Under new management, historic Baldwin Locomotive battles for its place in an industry which may be dead today, booming tomorrow.

BALDWIN built more locomotives in 1873 than in 1928. Trains went as fast, often faster, thirty years ago as they go today. The speed record for building a locomotive in the Baldwin shops (eight days) was established in 1888. These three statements denote an industry that, if not backward, at least has not forged ahead at the dynamic pace of most American industries in the last quarter-century. But it is to be noted that Baldwin *could* build more locomotives today than it could have in 1873, that trains *could* go much faster today than they did in 1890, and that Baldwin probably *could* shatter to bits its eight-day speed record if it wanted to. There has been no demand for any of these things to be done, and hence they have not been done.

Where there has been a demand, Baldwin and the other builders have met it. The modern locomotive is a vastly more efficient machine than the locomotive of 1880 or of 1900. The superheater and the feed water heater (which uses waste heat to heat the water before it enters the boiler) have made possible great fuel economies. Articulation (see box) has doubled the maximum number of driving wheels. The mechanical stoker sprays coal into the fire box faster than the brawniest fireman could hope to shovel. The Walschaerts, or outside, valve motion has long replaced the old Stephenson link motion. Other important improvements in the 1900-1920 period are the power reverse gear, the "booster," and the sectional fire brick arch. Though fewer locomotives are ordered today than twenty years ago, the aggregate tractive power is the same if not larger. In 1880 a typical locomotive was the *American*, which weighed 75,000 pounds and whose boiler had a heating surface of about 1,000 feet. By 1918 the *Pacific*, one of the standard types of the time, weighed 306,000 pounds and had a boiler heating surface of 3,824 square feet. And the eleven monsters now being constructed for the Northern Pacific, the hugest to be built so far, weigh 729,000 pounds and have heating surfaces of 7,666 square feet.

This is an impressive record of progress, but it does not lay the ghost of Baldwin's 1873 production, which actually surpassed its 1928 output. The situation seems to be that whereas locomotives as machines have been steaming ahead in the 20th century, locomotives as an industry have crept along very slowly, have even done a little backing up. The production of automobiles, toothbrushes, steel girders, and the other impedimenta of this machine age has mounted dynamically, almost alarmingly in the last quarter-century. Not so the locomotive. Except for the temporary stimulus of the World War, production has shown a tendency to decline since 1900, especially in the last decade.

"I have seen the grass, at times, grow six inches high in the Baldwin Locomotive Works," remarked Samuel M. Vauclain a year or two ago. "It is not six inches now," he continued. "Therefore, why worry?" But Mr. Vauclain has done a good deal of worrying in his time, and the dominant Baldwin interests of today are, of course, conscious of the industry's tremendous fluctuations, reflected in Baldwin's operating income over the past five years:

1925	$2,350,000	(deficit)
1926	3,810,000	
1927	2,040,000	
1928	420,000	(deficit)
1929	3,850,000	

These figures are not accidental; they emerge from a condition and a relationship entirely apparent to railroaders, but which will here bear brief comment.

While building a locomotive is as massively stolid an operation as any in the entire range of manufacturing, selling a locomotive is as flightily uncertain a business as starting a new vogue in millinery. One would expect the demand for so basic a product as a locomotive to be fairly constant. But Baldwin's annual production figures climb and fall with large and sudden jumps. This is because comparatively slight fluctuations in the business of the railroads cause very much greater fluctuations in the orders they place for new equipment. Thus a 10 per cent increase in traffic might well call for fifty new locomotives instead of the normal twenty-five. This would, of course, be a 100 per cent increase for the builder. And declines in traffic react with equal exaggeration on the equipment makers. If there were a really drastic decline in traffic some year, say 5 per cent, it is quite likely that the railroads would not need to order a single new locomotive.

There is evidence that the rolling stock industry is grievously overbuilt. Baldwin has an annual capacity of 3,000 locomotives, nearly

HOW TO RECOGNIZE A LOCOMOTIVE

A LOCOMOTIVE, considering what it is called upon to do, is a surprisingly simple piece of mechanism. Essentially, it is a boilerful of water, a fire to heat this water, and some cylinders and pistons to apply to the wheels the steam thus generated. Nor do locomotives vary much more widely, one from another, in design. They are classified not by any involved interior arrangement of pipes and cylinders but by their most obvious parts: their wheels. There is no reason to be perturbed by a technical description of a locomotive as a 4–6–2 *Pacific* type. *Pacific* is merely a popular, picturesque synonym for 4–6–2; such names are dying out in this businesslike era. The mystery of 4–6–2 is soon explained: the first and last figures refer to the number of small (or truck) wheels in the front and rear respectively; the middle figure refers to the number of driving wheels. Thus a *Pacific* or 4–6–2 engine has a four-wheel truck immediately behind the cowcatcher, followed by three pairs of drivers, and a two-wheel truck in the rear under the fire box. Mathematically, the mutations and permutations possible between these three units are enormous. Practically, they are limited to somewhat less than forty combinations. Which means there are about forty different types of locomotives, though this wheel-classification does not include certain other locomotive distinctions, such as compounding and double or single expansion. The most important, currently or historically, of locomotive types would certainly include the *Consolidation*, *American*, *Mogul*, *Prairie*, *Atlantic*, *Decapod*, *Sante Fe*, *Mikado*, and *Pacific*.

Locomotives built today tend to have four wheels on the rear truck in order to support an extra wide and deep fire box and so obtain more power. The 4–6–2 *Pacific* has become the 4–6–4 passenger type of the New York Central; the 4–8–2 *Mountain* has become the Chicago & Northwestern's tremendously powerful 4–8–4 type; and the 2–10–0 *Decapod* has become the Union Pacific's 2–10–4 freight locomotive. Lima has jazzed up even the old *Consolidation* (2–8–0) by adding a four-wheel rear truck, making it a 2–8–4.

The *Articulated* or *Mallet* locomotives are the largest and most powerful on the rails. Anatole Mallet, a French engineer, was the inventor. Essentially, he divided the locomotive frame, or chassis, into two parts connected by a hinged joint, and to each of the parts he gave a separate set of driving wheels worked by separate cylinders. Whereas the maximum number of drivers practical in a nonarticulated locomotive is probably the six pairs of the Union Pacific's 4–12–2 fast freight type, the *Mallet* makes sixteen drivers a commonplace. And Baldwin can build, and has upon occasion done so, a doubly articulated locomotive with no less than twenty-four driving wheels, which is represented by the monstrous symbol: 2–8–8–8–2.

three times as many as all three builders have been turning out in recent years. Even allowing that these "capacity" figures are theoretical in the sense that no one expects them to be reached, the spread between capacity and production is alarmingly wide. In its plant and equipment alone Baldwin has $35,670,000 invested, a necessarily large outlay. To realize any profit on this, a few hundred locomotives a year are not enough. Chairman Woodin, of American Locomotive, recently told an inquisitive stockholder that in order to earn the annual dividend of $8.00, the company needed a yearly production of from 600 to 800 units. Yet last year, which was the best since 1926, there were only 1,395 locomotives ordered from all three builders, of which total American Locomotive got just 330. The builders themselves tacitly recognize that they are overbuilt by the efforts they are making to push into other lines of manufacturing, as Baldwin with its heavy investments in Standard Steel Works and Midvale Steel, and American with its subsidiary, Railway Steel Spring Co. The War is largely responsible for the present condition. The locomotive builders greatly enlarged their plants to take care of War orders. Everyone expected that when the government turned back the railroads to their owners, a great deal of heavy buying of equipment would follow. But nothing of the sort took place. Since 1920 the railroads have been buying less and not more rolling stock.

Overbuilt or underequipped?

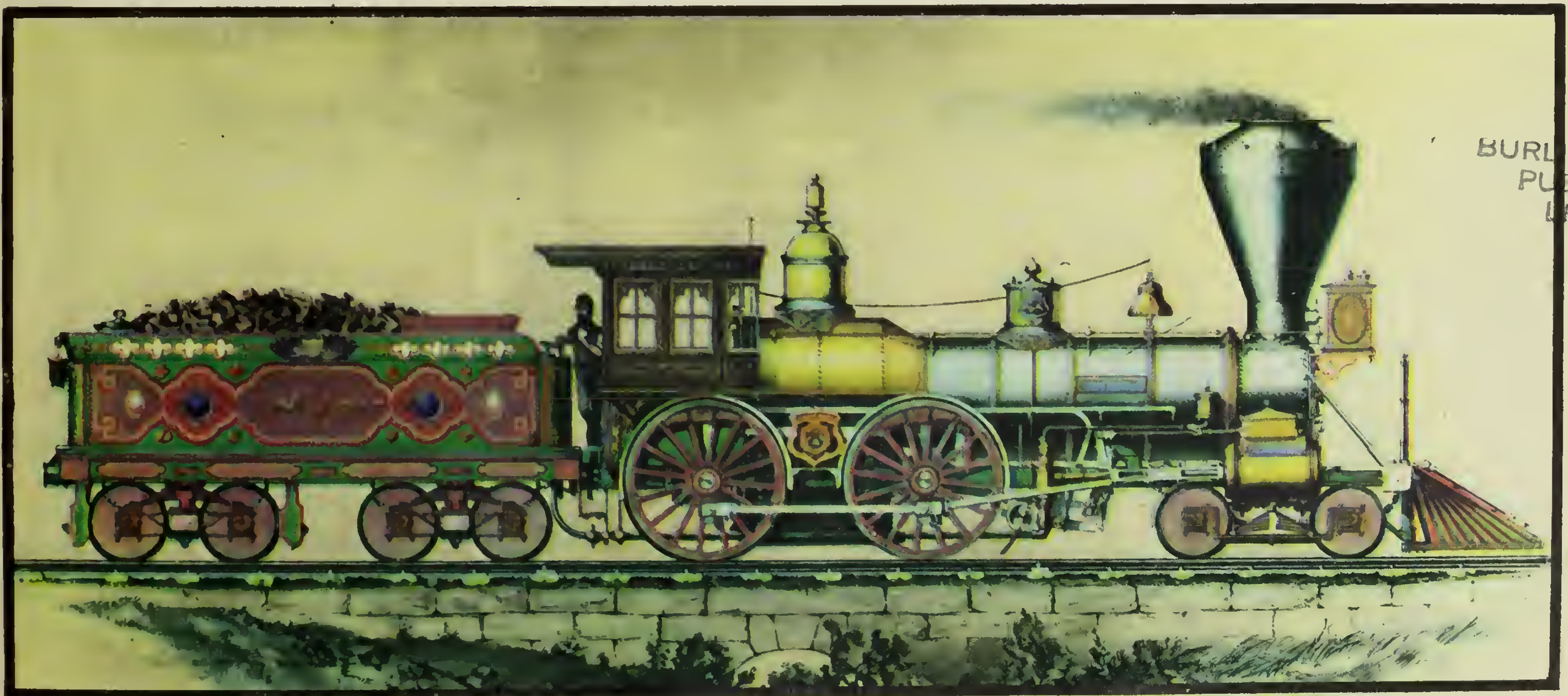
In the last ten years the rolling stock requirements of our railroads have declined drastically from their level in the first part of the century. Locomotive orders, for instance, which once averaged 3,000 a year, have hovered around 1,000 since 1920. As a result of this slacking-off in buying, the Class I railroads have in service today fewer locomotives than they had in 1912 and fewer freight and passenger cars than they had in 1920. With demand for locomotives what it is today, Baldwin is unquestionably overbuilt. But in 1920 only a Ford could have foreseen the inauspicious conjunction of forces that has produced the present situation. One of these factors is that the railroads, in the face of competition from motor trucks and automobiles, have only slightly increased their business since 1920.

The railroads' period of expansion is over. They are now concentrating on efficiency and economy of operation. These are the other forces behind the drop in rolling stock orders. The index figure for railroad operating efficiency (a composite reflection of thirteen such factors as ton miles, freight train speed, and fuel consumption) has risen from about 103 in 1923 to about 121 in 1929. This means that the railroads are getting more and more out of their rolling stock. In the last twenty years freight trains have lengthened out from 40 to as many as 120 cars in a single train. The future development of roller bearings on cars may stretch out trains to unheard-of lengths. The Chicago, Milwaukee, St. Paul & Pacific is a pioneer in this line. Locomotives are being used more continuously, with several crews assigned in shifts to one engine instead of the old system of one crew to an engine. There has also been a tendency to modernize old locomotives. So easy is it to install the superheater, the power reverse gear, and such devices on old locomotives that 79 per cent of the locomotives in service today are ten years old and 35 per cent of them are over twenty years old. Apparently the railroads expect a new locomotive to last them about fifty years, which, for Baldwin, is a long time between drinks.

The locomotive builders

Mr. Vauclain of Baldwin thinks highly of the steam locomotive "from both practical and sentimental viewpoints." Practically, the locomotive is the machine which last year carried from one point to another several million tons of wheat, shoes, automobiles, washing machines, coal, iron ore, dishrags, Hershey bars, baseball bats, steel girders, and such adjuncts of American life. Sentimentally, the locomotive is the machine which has run over the plains and under the mountains of the world, leaving behind it great clouds of smoke and the seed spores of civilization. It is the machine which has ponderously puffed its way into the imaginations of many generations of American small boys, and which so overawed the youthful William Ellery Leonard that he wrote a book, *The Locomotive God*, to explain the terrible effects on his after life.

If one wanted to buy so marvelous, so terrible a machine, there are three companies in this country, and only three, which would make it. The smallest is the Lima Locomotive Works, at Lima, Ohio, which has built up a fine tradition of craftsmanship in its fifty-eight years of existence. The largest in point of total assets, though not necessarily so in point of production, is the American Locomotive Company. The oldest is the Baldwin Locomotive Company. Founded in 1832 by Matthias W. Baldwin, the company has built locomotives for the World War, the Civil War, and would doubtless have built them for the War of 1848 had there been any demand. Its part in the development of the American locomotive is second to none. Baldwin has introduced many of the most famous locomotive types: the *Atlantic*, the *Consolidation*, the *Decapod*, the *Pacific*, the *Prairie*, the *Mikado*.



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IN 1834 A LOCOMOTIVE LIKE THIS WAS NO JOKE. BREESE & NEELAND BUILT THIS, PROUDLY CHRISTENED IT *YOUNG AMERICA*

Eddystone

At Eddystone, Pennsylvania, there is one of those gigantic industrial landscapes that betokens the presence of a large manufacturing company. Spread over 596 acres are groups of modern, steel, and concrete factory buildings, centering around a tall, cross-shaped office building. In front of this building is a pedestal, and on the pedestal a graven image. The image is that of Matthias W. Baldwin, and the many buildings he reflectively surveys are the Baldwin Locomotive Works.

Here are to be found the broad shops and the massive machines that are necessary to build the modern locomotive. There is the fifteen-acre boiler shop, whose vastness is divided into five or six lofty "bays," as in any medieval cathedral. In this huge structure even the brawniest of workmen look puny. During the War, Remington made 1,000,000 rifles here from September, 1917, to September, 1918. War days set all Eddystone humming on a note it has not since recaptured; towards the end, it was turning out 300 *Pershing* locomotives a *month.* There is the frame shop, the tender shop, the machine shop, each of them of sizable dimensions. The foundry is said to be the largest locomotive foundry in the world.

Above all, there is the erecting shop, where the products of all these and many more shops come together to be welded and riveted into a locomotive. Starting at the lower end of the shop with little more than a boiler mounted on a pair of wheels, the embryo locomotive travels slowly toward the other end. When its journey is finished, generally in about two weeks, it emerges into the sunshine of the yards a complete locomotive, ready to steam off under its own power. The entire process of building a locomotive takes four months, on the average, though in 1888, as a test, one was put through in just eight days. If the locomotive is destined for a near-by railroad, it generally steams there over the Pennsylvania or the Reading (whose tracks reach Baldwin). Locomotives that are going to western roads are usually hauled there as freight, as in the spectacular *Prosperity Special*, consisting of twenty new locomotives built for the Southern Pacific, which went across the continent in 1922. If the locomotive is to be exported, it is put on shipboard at the company's wharf on the near-by Delaware River.

Baldwin abroad

This has been the fate of many a Baldwin locomotive. The jungles of Sumatra and the fjords of Norway both know the engines Baldwin makes. Since 1836, when the first export sale was made, seventy-eight foreign countries have bought locomotives from Baldwin. Immediately after the War, Mr. Vauclain gave a great impetus to exports by inaugurating a policy of credits to nations buying Baldwin locomotives. So widely did he extend these credits that at the end of 1922 his company had some $20,000,000 owed to it by foreign nations. And so wisely did he extend credit that at present only about $4,000,000 of this is still outstanding

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Photographs by Paul Hesse

A NOCTURNAL VISION OF WILLIAM ELLERY LEONARD'S LOCOMOTIVE GOD THRONED ON HIS TURNTABLE BEFORE THE ROUNDHOUSE on the company's books. To increase foreign trade Mr. Vauclain has not hesitated at somewhat bizarre expedients. When he sold the King of Rumania twenty-five *Consolidation* locomotives for His Majesty's State Railways, the security was Rumanian oil and some of the payments were actually made in oil, a reversion to barter in international trade. Many a banker shook his head disapprovingly when the Argentine State Railways bought eighty-five Baldwin locomotives and Baldwin loaned them 30 per cent of the value of their order in cash. Conservative bankers were also horrified when Mr. Vauclain shipped $6,965,000 worth of Baldwin locomotives to the newborn Republic of Poland on credit, before the young nation had even settled its boundaries. "They will pay us," declared Mr. Vauclain. That was in 1919. Last fall Poland paid the last installment on the debt, nor had she once fallen behind in payments, even in the early days when the Bolsheviki were pressing close on Warsaw. Thus was Mr. Vauclain's faith justified. However, though its adventures abroad were on the whole successful, Baldwin these days is taking a more conservative attitude towards foreign credits.

The Fishers and the future

Baldwin has a chairman of the board, a chairman of the executive committee, and a president, each of them at present a significant figure. Samuel Matthews Vauclain is chairman of the board. His long career with the company, begun in 1883 and culminating in 1919 with the presidency, is drawing to its close. The chairman of the executive committee is Thomas S. Gates, of Philadelphia's old and potent Drexel & Co. The significance of Mr. Gates is that he is a Morgan partner. Tall, calm-faced George H. Houston is now president. The significance of Mr. Houston is that he has for many years been associated with the Fisher brothers. His election in March, 1929, to succeed Mr. Vauclain marked the emergence of a new powerful influence in Baldwin management.

The most important factors in Baldwin's financial future are the Fisher brothers and Mr. Arthur Cutten. They came into the company via Wall Street and the stock market, bought Baldwin stock in enormous quantities, saw it rise from 92 in 1926 to 233 in June, 1927. Down at Eddystone, old Samuel Vauclain, watching the Fisher entry and feeling his leadership of Baldwin slipping, publicly announced that his company was running at only 20 per cent capacity, and, somewhat less publicly, intimated that the stock was worth no such prices. But by the end of 1927 the Fishers held over half the common stock and a good block of the preferred. And Mr. Cutten went on the board.

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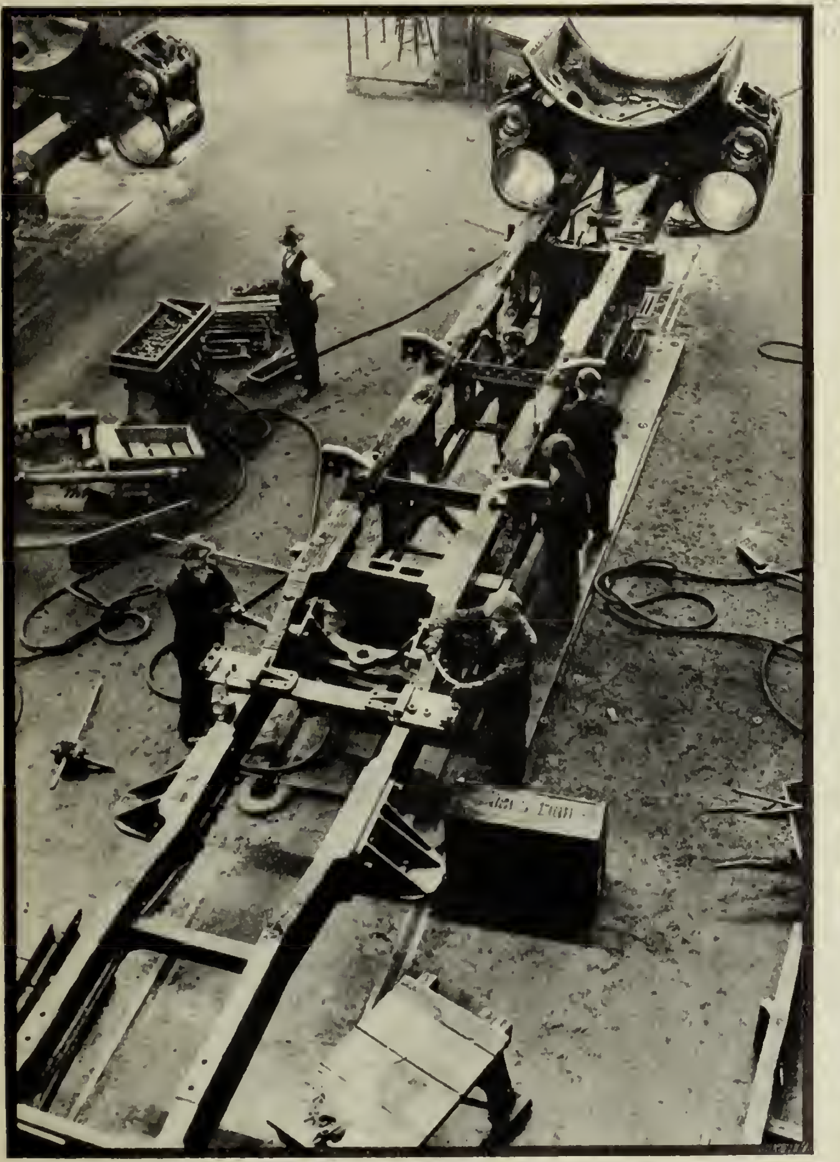
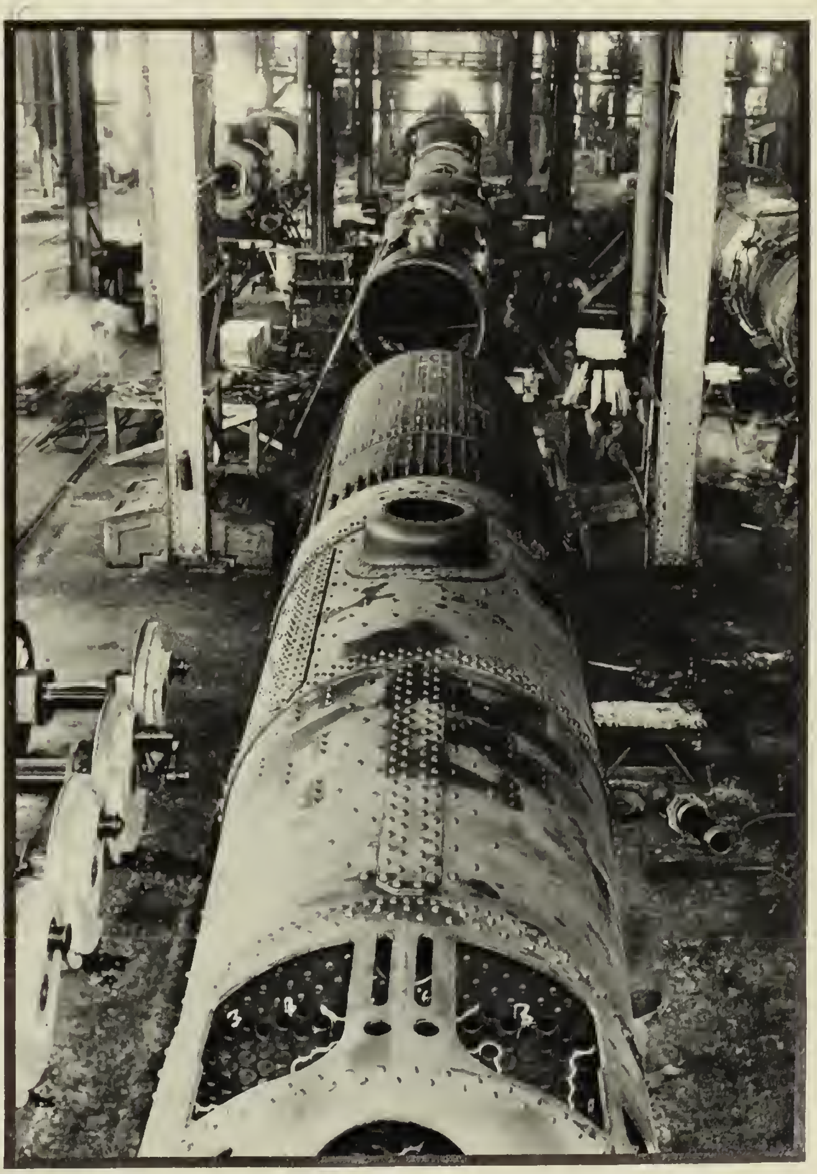
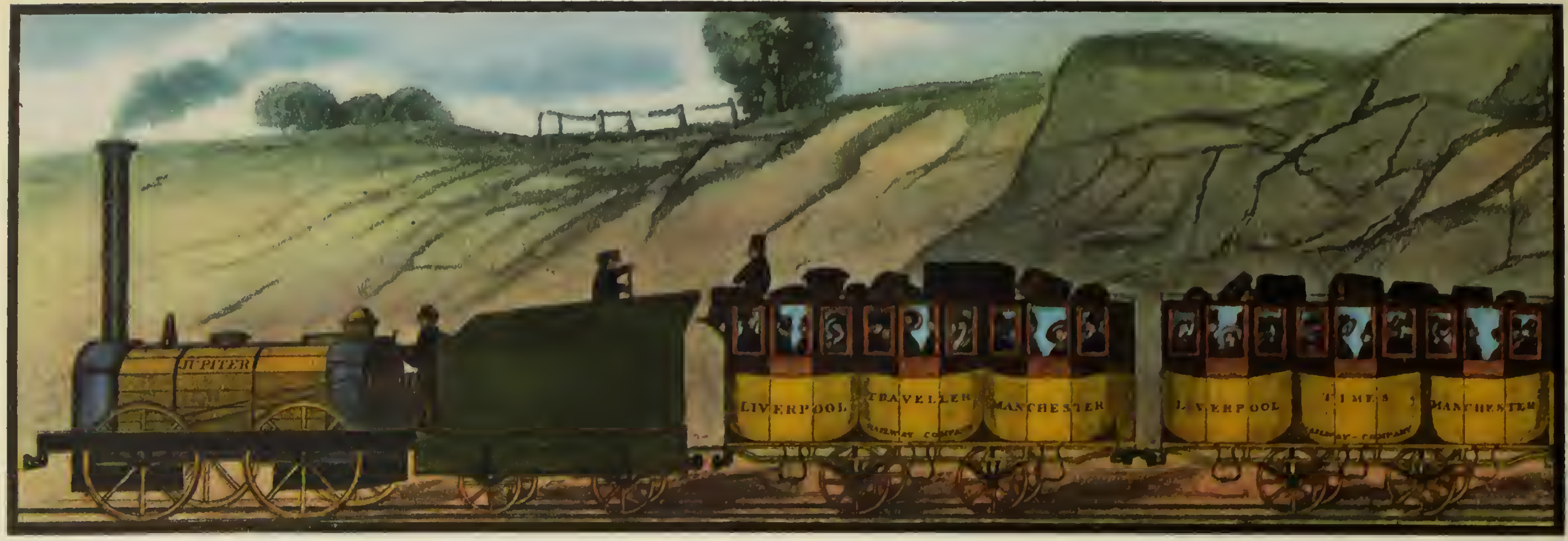
The Fishers paid well for their present dominating position, but today there are two Fishers (Fred and Edward) on the board and a Fisher-man in the presidency. The Fisher touch may well be detected in the excellent quarterly business that Baldwin announced last March: $6,733,000 as against $2,234,000 for the same three months of 1929. And the new régime may be responsible for Baldwin's sales victory over American Locomotive last year, with 468 orders as against 330 for its vigorous competitor. Even more gratifying was another recent sales victory, when Northern Pacific, which had gone elsewhere for the first of its dozen new monsters, had Baldwin build the remaining eleven. As noted previously, these are the world's largest locomotives.



THIS PONDEROUS CHASSIS IS SOMETIMES CAST IN ONE PIECE



TO COMPLETE A LOCOMOTIVE TAKES ABOUT FOUR MONTHS



TIME WAS WHEN THESE DELICATE LITTLE BOXES ON WHEELS TRANSPORTED THE REALLY SMART TRAVELER ON THE STAGECOACH TRADITION, AS WITNESS THE GUARDS SITTING

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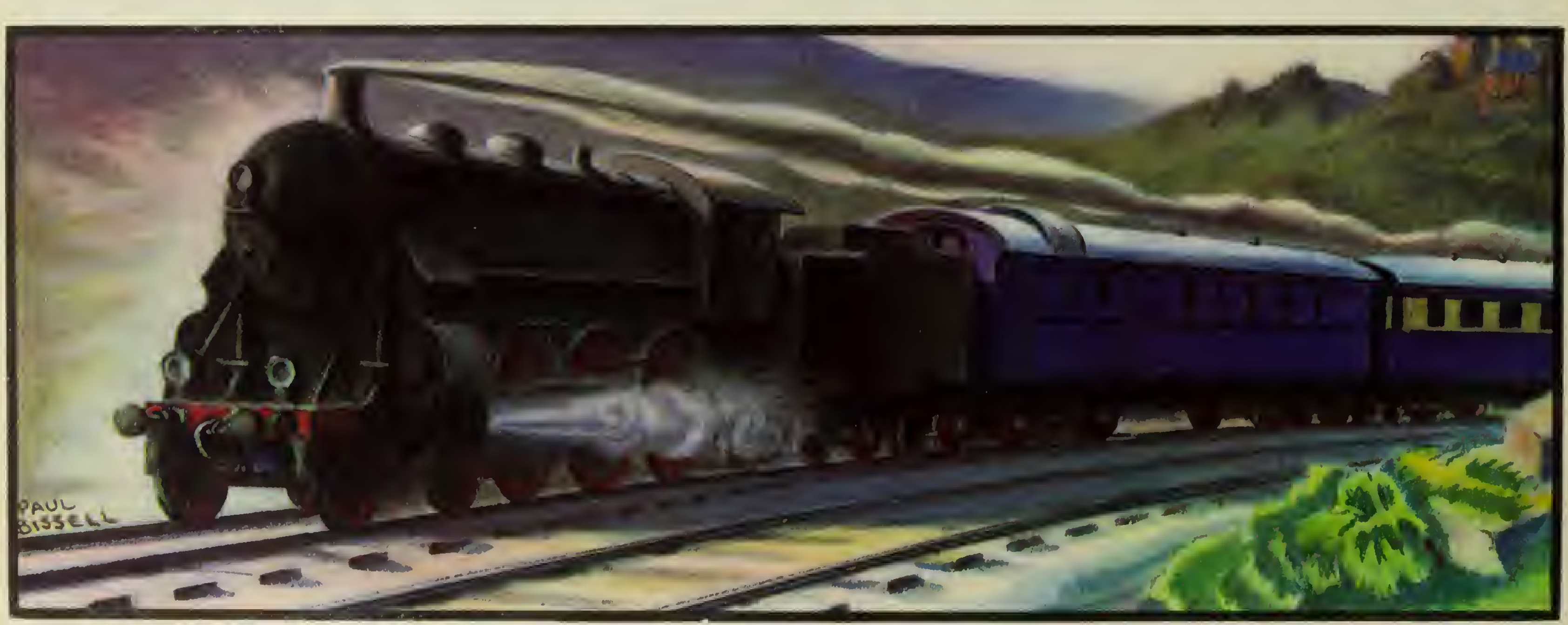
A. C. F.

Means anything from scows to yachts, from manhole covers to carburetors, but especially does it mean freight cars. And if fewer freight cars, then more buses.

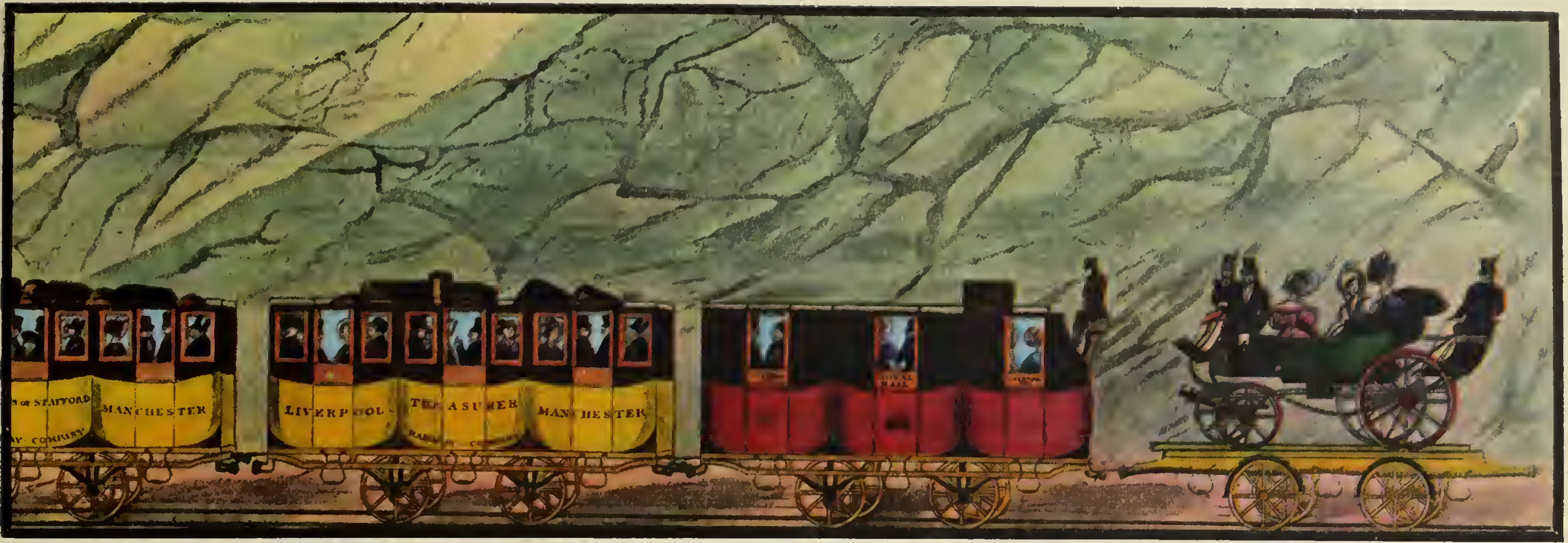
RAILROAD men talk about freight cars living twenty-five years. They might just as well say that a freight car lives forever. For a freight car lives by repair. Trundle a rosy new car out of the shops today—in ten years not one of its present parts may remain, each may have been replaced. Some railroads have a theoretical schedule for the life of each part, and each part is replaced when its time comes whether or not it shows any signs of wear. Catastrophe, of course, will end a freight car's life, but catastrophe is, fortunately or unfortunately, rare. Obsolescence will also send it to the scrapheap, but now that freight cars have apparently reached their maximum practical size, obsolescence can not be relied upon to destroy a freight car's use and hence give freight car builders more work to do.

So, speaking of freight cars, we are led directly to the question of the hour: are railroads justified in building their own cars? This question we shall formulate.

There are 2,700,000 freight cars in the United States, and a large share of them have been built by the American Car and Foundry Co., headed by William H. Woodin,



THE MODERN TRAVELER IN EUROPE, IF HE IS DOING THE GRAND TOUR, TAKES SOME SUCH LUXURIOUS THE *RHEINGOLD* SHOOTS UP THE RHINE FROM ROTTERDAM TO BASEL.



HIS EUROPEAN PEREGRINATIONS. THIS TRAIN, WHICH *JUPITER* OBLIGINGLY PULLS, SHOWS STRONG TRACES OF ALOFT AND THE BAGGAGE TOSSED INFORMALLY ON THE ROOF

who is known for his keen perceptions in both industry and art. The layman might suppose that Mr. Woodin had a stable industry: than a freight car, surely nothing is more essential to the present order of civilization. But actually the steadiest thing in Mr. Woodin's business has been the decline of its net income. The pat explanation is that fewer and fewer freight cars are ordered because the railroads are becoming yearly more efficient and economical in the use of their rolling stock.

There are other reasons. The motor bus, for example, has taken much short-haul traffic and, relative to mileage, more freight cars are required for short hauls than for long hauls. But, whatever the reason, the fact is that the car-building industry is overbuilt. There are too many car-builders. A. C. F.'s plants alone have an annual capacity of 110,000 cars, which is within 14,000 of the total number ordered last year. A. C. F.'s competitors, chief of which is Pullman Car & Manufacturing Corp., could undoubtedly turn out many times 14,000 freight cars a year.

And, to make matters worse, the sword that dangles over the industry's head is the ability of the large railroads to make their own cars. Last year the Pennsylvania (which manufactures less of its own rolling stock than some other roads) made 2,000 box cars in its own shops. Nearly all the large railroads claim they can make cars as cheaply as the regular car-builders. And cheaper—for a good reason. Railroads must, of course, have repair shops. Repairing amounts to rebuilding. When these shops are not working at full time in repairs, they can work full time building. Thus exactly unlike the car-builder, whose business fluctuates violently, the railroad shops can, theoretically, keep evenly busy year in, year out. This year, for example, Baltimore & Ohio is doing much building because traffic (and hence repair) is not so heavy. Smaller railroads, however, and western railroads which do not have big central shops must buy from A. C. F. and the other smaller builders. But it is conceivable that even this situation may be altered. For smaller railroads might merge their shops. For example, Spokane has five railroads and five railroad shops. Only one of them, the Great Northern's Hilyard (Hill-yard) is of great magnitude. If all five shops were merged into one huge shop, then all the Spokane-entering railroads would make cars in it.

Meanwhile, A. C. F. keeps going. The small roads must come to it for cars. The large roads often choose to do so. For A. C. F. is a large shipper. In order to get business from A. C. F. in the form of traffic, the big eastern roads continue to give A. C. F. business in the form of car orders.

But even if a Twenty-first Amendment to the Constitution should forbid railroads from making any cars, the troubles of A. C. F. would not be over. For the freight car is a pitiful creature. Sentimentally it is the classic example of man's ingratitude to man's

[*Continued on page 84*]

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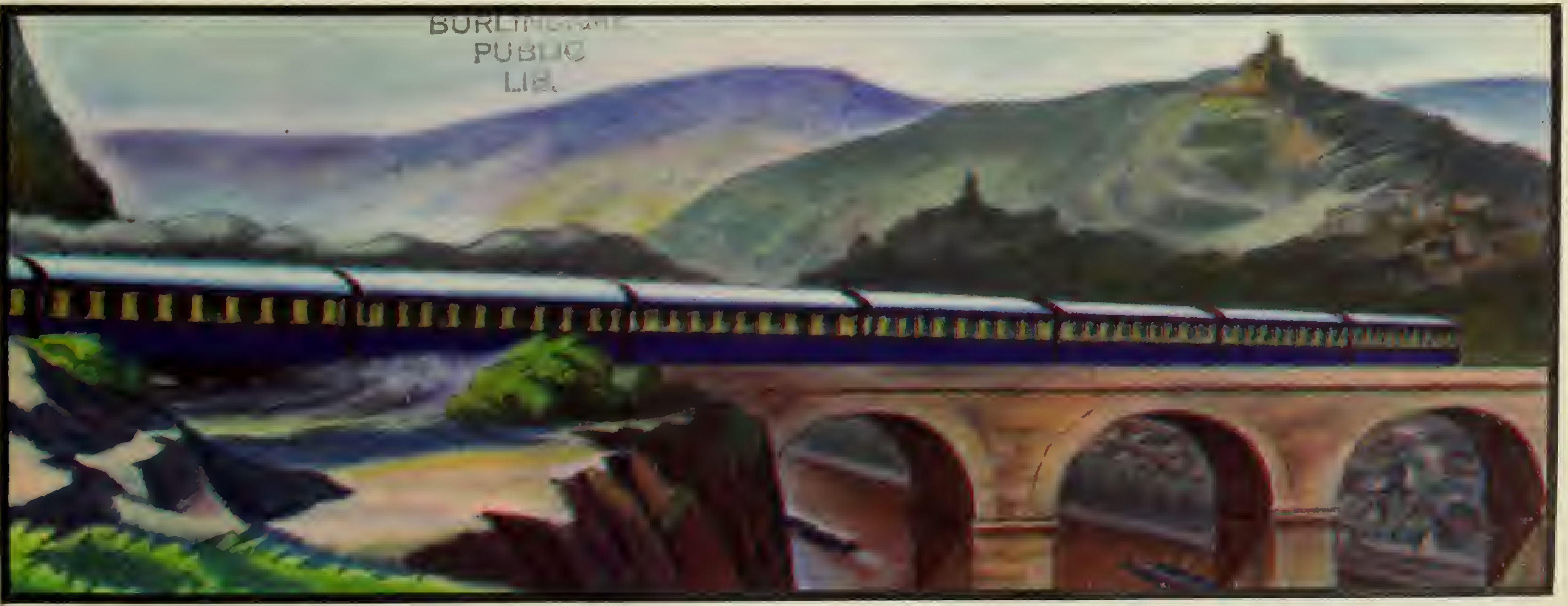

LIMITED AS THE *RHEINGOLD EXPRESS*, SHOWN HERE PASSING COBLENZ CASTLE. LIKE A PURPLE METEOR IT CARRIES NO DINERS; EVERY TWO CARS HAVE THEIR OWN KITCHEN

Pullman

Notes on a company which supplies the cream of rolling stock, which bravely attempts the impossible, and which is responsible, finally, for that ultimate luxury in travel by land—the private car.

THE Pullman Company cannot keep trains from moving or stopping, or the passengers from snoring. It cannot make the same car warm for the long anæmic lady and cool for the fat lady who travels thereon at the same time. The best that it can do is to strive for a norm in such matters as temperature, admit that it must displease some people, and try to give much good service. This the Pullman Company does. The fact that dressing and undressing in uppers and lowers is perhaps the most uncomfortable performance known to the United States remains to the company's discredit. The fact that all European sleeping cars are compartment cars remains a European joke at the expense of Americans. Perhaps the Pullman Company will some day alter these facts—it already has compartments and compartment cars. It should be a great incentive to the company that after so many years of creating improvements, there is still room for more.

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Go to Detroit, Dearborn, and watch Chryslers and Fords being born in countless numbers. Go to Pullman, Illinois, and see a far different sight. No mass production, no standardized product. Last year the company manufactured 281 Pullmans and 100 diners. And most of the Pullmans were different. There are at present twenty-seven different kinds. And they are known by name, never by number. The diners are different from Pullmans in that diners are sold directly to the lines. The company owns all Pullmans. Pullman, therefore, is both a manufacturing company and a common carrier.

But a company official, unusually sensitive to words, might demur at the category of common carrier. For Pullman is, after all, a luxurious carrier. And even if one should happen not to sleep well in Pullman sleepers, one dare not deny the comparative luxury of parlor cars, club cars, observation cars. In dollars the creation of this luxury amounts to $20,000, the average difference between the cost of a Pullman and the cost of a day coach. For Pullmans, it is seven coats of paint, requiring from seventeen to twenty-three days. It is insulation made of cattle hair or wood fiber. It is the workmanship of 712 men on each car. It is pillows stuffed with goose feathers which come from Serbia and China, spring mattresses with horsehair tops. It is great and labored testing in a laboratory where exists, for example, a machine that gives 100,000 double rubs to all samples of plush, more rubs than posteriors could give a seat in many a year.

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The Pullman Company does not advertise. Railroads do. Sometimes the railroads have murmured objections. Does not Pullman derive benefit from the trade engendered by the lines' advertising? To the murmured question, Pullman offers no reply. But is not the public apt to forget, when a line advertises a luxurious train, that the entire train with the exception of locomotive, diner, and baggage car is Pullman-owned? Would not Pullman advertising of this fact take away from the glory of the line's advertising? To murmured questions such as these, the railroads offer no reply. The Socratic method nullified, questions but no answers. One arrives nowhere, but one sees both sides.

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Shriners like luxury. For their conventions they require 900 Pullmans. But the Eucharistic Convention of 1926 needed more.

BUDGET FOR THE PROSPECTIVE OWNER OF A PRIVATE CAR

INITIAL COSTS

COST OF CONSTRUCTION *(The Pullman bill may be for as much as $100,000. Refund will be made after exact costs have been compiled. Pullman bills for cost plus 15 per cent profit, plus allowance of 175 per cent for direct labor for overhead.)*		$80,000
SILVER		500
ADDITIONAL FURNISHINGS AND DRAPES		5,000
CHINA AND GLASS		500
LINEN, BLANKETS, SILK SPREADS		1,750
KITCHEN UTENSILS		100
	TOTAL	$87,850

UPKEEP

SALARIES *(per year)*		
Steward	$2,400	
Chef	1,800	
Waiter	1,500	
		$5,700
RAILROAD CHARGES *(Depending, of course, upon the car's use. Here it is figured that the car's habitat is Chicago, that it makes one trip to the Kentucky Derby, one trip to the Yale-Harvard boat races, one trip to Pasadena, three trips between Chicago and New York, two trips to Washington, one trip to Hot Springs, one trip to Quebec, and one trip to Jaspar Park. The remainder of the time it is paying parking charges in the yards.)*		
Tickets *(Twenty-five for each trip)*	$20,219	
Surcharge *(10 per cent)*	2,021.90	
Parking *($3.60 per day for first seven days; $12 a day thereafter)*	681.60	
		$22,922.50
FOOD		
Passengers *(average five)*	$750	
Allowance for crew *(Depending again upon whether the owner maintains a full crew, or takes on the chef and waiter when needed. In general, however, it will be found more satisfactory to keep a full crew. At $3 per man per day, crew's food will cost . . .)*	3,285	
		$4,035
PARKING CHARGES FOR PERMANENT STORAGE *(Usually at $2.40 per day. After trips are subtracted, total days in Chicago storage are 240.)*		$576
TIPS *(Station masters, yard masters, and their assistants must be tipped.)*		$500
	TOTAL	$33,733.50
	TOTAL COST FOR FIRST YEAR	$121,583.50

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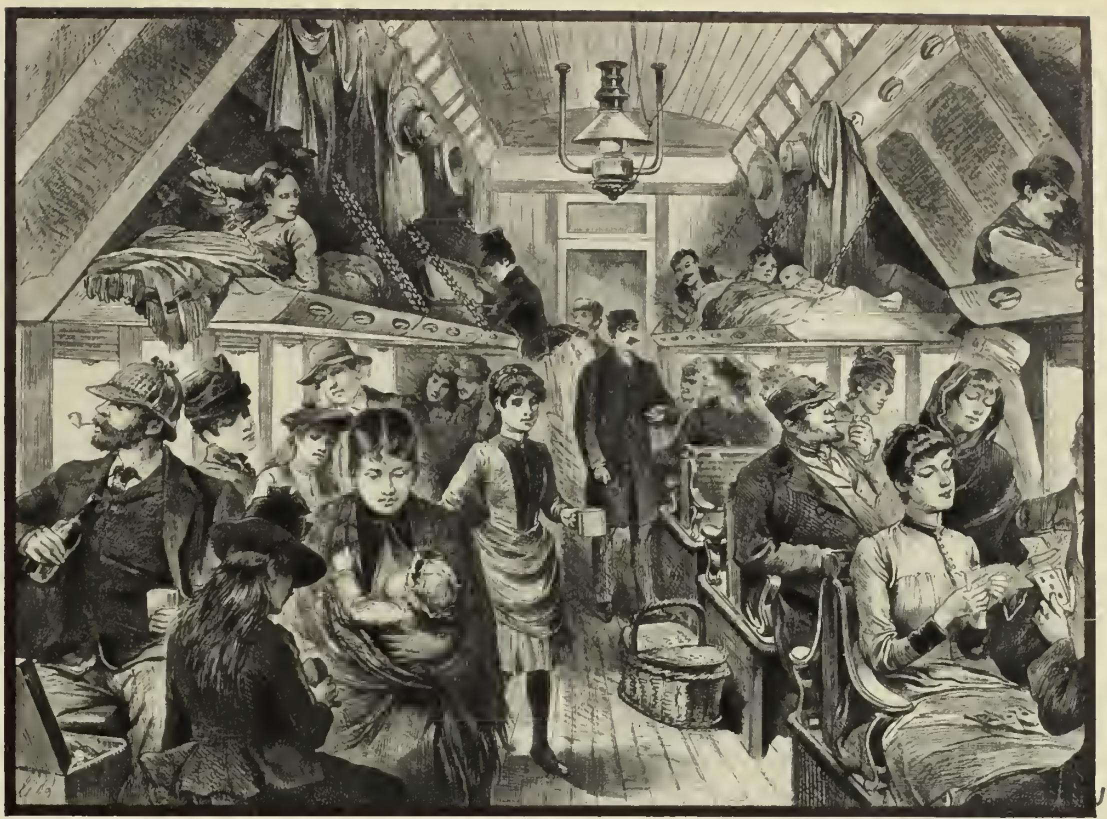

Culver Service

AN EARLY SLEEPING CAR, IN ITS DAY THE LAST WORD IN TRAVEL DISCOMFORT

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Heat. Than any restaurant, living room, hotel lobby, a Pullman car has more sides exposed to the elements—six in all. Cars are heated through a train-line supply. There are seven units of heating service in a sleeping car. Paradoxically this advantage makes for a difficulty: the human element of the porter who regulates the heat as he thinks best. He may turn on one, two, or any number of units. But again how can he hope to satisfy both the anæmic lady and the fat lady? The new *Yankee Clipper* of the New York, New Haven & Hartford dispenses with the porter's human element. It carries a sort of thermostat which regulates heat automatically. The complaints of the fat lady and the anæmic lady may have less effect on a thermostat than on a porter, but they are none the less sincere.

• • •

The Pullman is a fillip to American traveling; it is the holder to the cigarette, the extra pair of pants, if you will, to the suit. But the Pullman is no extravagance. In Europe one has first, second, third class. In America one has the day coach and the Pullman. The Pullman is simply a more pleasurable way of traveling. In some newspapers Pullman is not a proper noun. The extravagance that Pullman makes is only one—the private car.

• • •

There are less than fifty in the United States. Some of them have cost $70,000; it costs half that amount to have and use one for a year. It sometimes takes four years to build one. They are fun to ride in. Their great, great attraction is that they insure privacy. Yet few of their owners ever ride in them alone. The high year for building private cars was in 1926, when fourteen were built, including five for the Mexican Government (the largest single order). Among the five was a most unusual private car designed only for transporting automobiles.

The list which follows includes not all but most of the existing private cars and their owners. The owners are corporations sometimes, or individuals. They use their cars for business or pleasure. There is no link other than wealth between them.

Private Cars and Their Owners

Anaconda Copper Mining Co.	*Anaconda*
Paul Block	*Friendship*
Nicholas F. Brady's estate	*Adventurer*
Albert Burrage	*Alicia*
Charles Clark	*Errant*
Herbert Coppell	*Mañana*
Richard Crane Jr.	*Nituna*
John S. Cravens	*Nomad*
J. P. Donahue	*Japauldon*
Major Max C. Fleischmann	*Edgewood*
Henry Ford	*Fairlane*
E. Palmer Gavit's estate	*Anacapla*
General Motors Corp.	*Pheasant*
E. G. Grace	*Bethlehem*
Edward S. Harkness	*Pelham*
E. F. Hutton	*Hussar*
Wm. F. Kenny	*St. Nicholas*
Edward B. McLean	*Enquirer*
John Raskob	*Skip Away*
Jacob Replogle (formerly belonged to J. S. Cosden)	*Roamer*
John Ringling	*Jomar*
Walter J. Salmon	*Mereworth*
Mrs. Elmer Schlesinger	*Ranger*
C. M. Schwab	*Loretto*
Harry F. Sinclair	*Sinco*
Wm. Boyce Thompson	*Alder*
John A. Vietor	*Vietwood*

BURLINGAME
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Paul Hesse

OVERSTUFFED CHAIRS AND GAY CURTAINS IN THE DRAWING-ROOM

THE DINING ALCOVE IN THE PRIVATE CAR ANALYZED ON THIS PAGE

Harry Payne Whitney	*Wanderer*
Mrs. Payne Whitney	*Adios*
Joseph E. Widener	*Lynnewood*
Wm. H. Woodin	*Berwick*

• • •

If you cannot buy a private car, you can rent one. The minimum charge is $175 for one or two days. If you keep it for more than three days, the charge is only $75 a day. These charges include the porter, a cook, a waiter, linen. But there are other charges. For food you pay its wholesale price plus 25 per cent, which compensates the company for preparing it and for what you do not eat. To the railroad you pay twenty-five fares plus a 10 per cent surcharge, or 50 per cent of twenty-five Pullman lower berth fares, whichever is the less amount. If you want to stop for a while and use the car as a hotel, the railroad charges for parking in accordance with its tariff; the charge runs from $12 to $15 per day. All this is apt to mount up.

• • •

Forgotten is the first great Pullman car, *The Pioneer*. But in 1865 it was the talk of the town. George Mortimer Pullman spent $20,000 building it, and he made it too high and too wide. Undaunted, however, he persuaded railroad men to remove the sides of a bridge or so, to tear down a few obstructing platforms, and after that *The Pioneer* was no longer wide nor high. One of its first distinguished passengers was Mrs. Abraham Lincoln, who rode in it one night from Chicago to Springfield, Illinois, to attend the funeral of her husband.

• • •

Pullman personalities: the Pullman Company does not like to be subdivided into personalities. It prefers to be thought of as an integrated whole; credit for any of its actions goes to the entire company rather than to any single individual. To inquiring reporters Pullman grimly preserves its impersonality. Publicity is not even given to the company's president, shrewd, laconic David Anderson Crawford, high seventies and low eighties golfer, resident of Evanston, whose first job with Pullman was secretaryship to the late Pullman President Carry.

Vice president and general manager of the company is Louis Sextus Hungerford, who in 1878 was a sleeping car conductor on the Rome, Watertown & Ogdensburg road. One of the oldest of the company officials, he, with tender reference to his middle name, calls himself "the old Roman of Pullman business." It is said of him that he once walked into a Pullman washroom and discovered a porter shining fixtures with a most egregious diligence, that when he inquired as to the reason for this activity the porter without looking up replied, "The bull with the long horns is on the train, but he ain't gonna catch me." For the first and only time in his life Mr. Hungerford was rendered speechless.

Perhaps the most colorful of Pullman personalities is that of Vice President James Keeley, who once as a newsboy sold newspapers to Gladstone and later, as the owner, sold the Chicago *Herald* to William Randolph Hearst. An idiosyncrasy of his is to cut the ends of the cigars which he smokes with a pair of scissors. The kitchen of his apartment in the Ambassador Hotel is decorated with colorful culinary cartoons, not the least noteworthy of which is one showing an amorous asparagus making love to a blushing bunch of beets.

• • •

In the Pullman Company the Mellon interests are represented by James Frank Drake, chairman of the board of Pullman, Inc. (holding company) and by R. K. Mellon, a director and president of the Mellon National Bank. General Motors is represented by the lean person of Mr. Alfred P. Sloan Jr., lover of grand opera who has a great aversion to getting his hands dirty. And the Morgan interests are represented by Director J. P. Morgan (also George Whitney). Of interest, too, are the names of Directors Harold Vanderbilt and George F. Baker Jr.

• • •

It should be stated that Mrs. Frank O. Lowden, daughter of the late George Mortimer Pullman, never, though thousands have believed that she did, named a single Pullman car. (It was Richmond Dean who achieved the brilliant record of naming 300 Pullman cars in twenty-four hours. He did so by dispatching a phalanx of assistants to the public library and having them copy virtually every old Roman and Grecian name of which there was record.)

• • •

Perhaps, however, Pullman does give publicity to one personality. He is Passenger Manager Howard P. Clements, and his signature appears on each and every Pullman ticket.

International

HERE SLEPT THE QUEEN OF BELGIUM EN ROUTE TO HER DAUGHTER'S WEDDING

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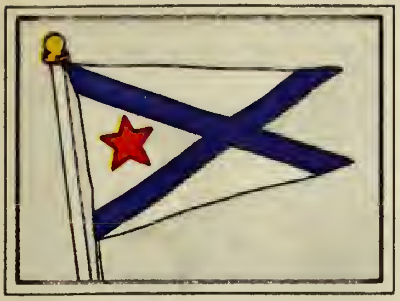
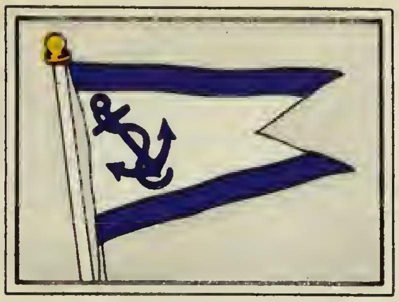
Pullman Co.

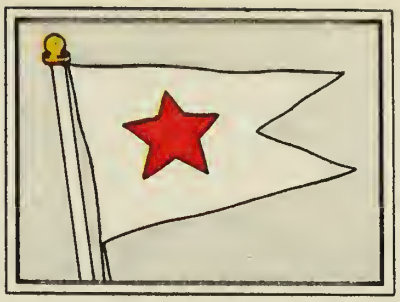
HERE EATS THE PRESIDENT OF MEXICO WHEN HE TOURS HIS PROVINCES



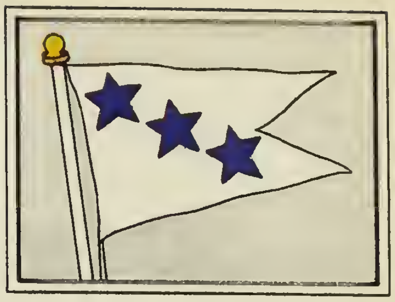
HAROLD VANDERBILT



WINTHROP W. ALDRICH



VINCENT ASTOR



GEORGE F. BAKER JR.

Yachts for the Race

BURLING
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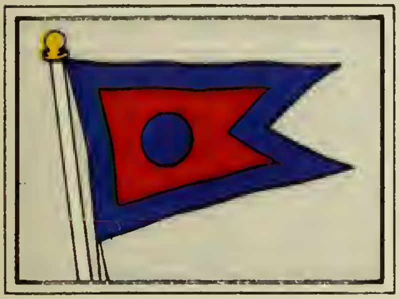
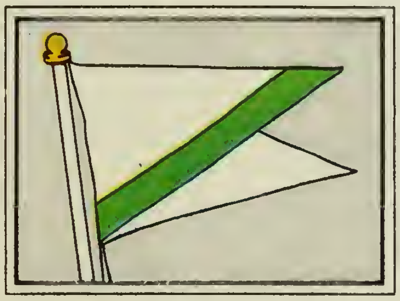
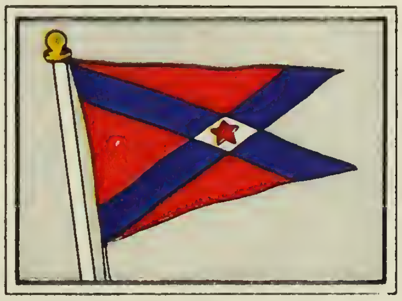
A naval conference at Newport. Marconi rigs for all cup yachts. The syndicates summon Lawley and Herreshoff to answer a tea man's challenge.



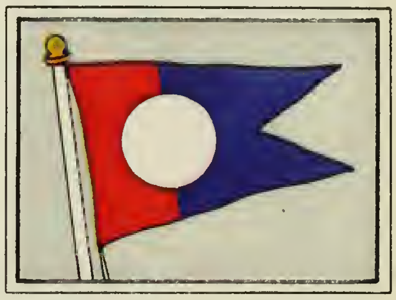
FLOYD L. CARLISLE



OGDEN L. MILLS



E. WALTER CLARK



GEORGE WHITNEY

YACHTING is a ceremonious and expensive diversion. It has to do with yacht club bars, oilskins, silver flasks, dances, Newport, halyards, cleats, sunburn, rubber-soled shoes, and the Astor Cup.

Cup defending is an even more ceremonious and expensive diversion. It has to do with Herreshoff's, Ratsey's lofts, mahogany, core boxes, wax, Lloyd's, displacement, City Island, designers, Lawley & Son, Sitka spruce, and syndicates. And most of the time, Sir Thomas Lipton.

It was on May 28, 1929, that the Honorary Secretary of the Royal Ulster Yacht Club mailed the challenge to the New York Yacht Club to race for the America's Cup. It was Sir Thomas Lipton, Bart. who was named as the challenger's owner. He was planning a new *Shamrock*, green like the others, and with quite the tallest mast ever seen. When the New York Yacht Club discreetly let it be known that it had received the English club's challenge, eager sports writers quickly telephoned to inquire whether and when it would be accepted. That day the club was ever so dignified; there must be no haste, and there was no further news. The telephones did not even answer. It was on June 10, 1929, that Secretary Cormack ceremoniously informed that same Honorary Secretary that the challenge had been accepted. And thereupon began a great activity which kept perhaps 1,000 U. S. citizens busy and which filled, each week, more space in the sports pages of the newspapers. Not until the race itself would become imminent would the yachting news splash across the first pages. But the preparations for the race, the actual process of creating the defending yachts quickly became important or at any rate interesting. And not the least interesting happening was the prompt formation of rich demiurgic syndicates whose function it was to finance and thus create the yachts which might best *Shamrock V.*

I—The syndicates

Four were formed last summer. To create them, there was tapped every available source of sportsmanship and wealth.

To the Morgan syndicate came George Nichols as skipper and managing owner, and Henry Walters, Cornelius Vanderbilt, Arthur Curtiss James, Junius S. Morgan Jr., Gerard B. Lambert, and George T. Bowdoin, each name synonymous with yachting and the New York Yacht Club. Clinton Crane, the genial head of St. Joseph Lead Co., who still remembers his years as naval architect and who still finds time to complete line drawings for at least one boat a year, was selected as designer. Three models were made for the selection by the syndicate; one was chosen and was named *Weetamoe*. The vital part of this boat was done; only the actual construction and the bills remained between her and the sea.

A second syndicate, to be known as the Vanderbilt group, began to take shape. Harold Vanderbilt, member of the syndicate which backed *Resolute*, the last successful defender, three-times commodore of the New York club and owner of the cruising yacht *Vagrant*, which managed to run off with the Astor Cup three years in spite of competition with more decided racing schooners, heads the syndicate as skipper and managing owner. Following him are Winthrop Williams Aldrich, Vincent Astor, George Fisher Baker Jr., Floyd L. Carlisle, Ogden L. Mills, E. Walter Clark, and George Whitney. No less famed are these men as yachtsmen. Mr. Aldrich, new to the defending game, acts as vice commodore of the New York Yacht Club. Vincent Astor, who early this spring sailed to the Galápagos Islands in his yacht *Nourmahal*, has been commodore of the New York Club since 1928. E. Walter Clark, who now owns *Resolute* and plans to sail her against these four boats this year, is one of the outstanding yachtsmen in the country. George F. Baker Jr., another member of the *Resolute* syndicate ten years ago, owns the ocean-going steam yacht *Viking*, and this spring sailed the Mediterranean in her. And the others, if new to the defending game, are well-known in the yacht clubs and in entry lists for regattas. Their boat, *Enterprise*, is built from the plans of W. Starling Burgess, son of the Ed Burgess who designed the former cup defenders *Puritan*, *Mayflower*, and *Volunteer*.

A third syndicate, midget-sized in membership compared with these other two, is the Landon Thorne-Paul Hammond-George Pynchon combination. They commissioned L. Francis Herreshoff, son of the great Nathanael, to draw up the plans, with the resulting *Whirlwind*. And the fourth, known as the Boston syndicate, was formed by John Lawrence, Chandler Hovey (father of the Josephine who races in this country and contemplates the same in England this summer), and Frank C. Paine. The latter, the son of that Charles Paine who owned and managed the defenders designed by Ed Burgess, has made the line drawings for their competitor, *Yankee*.

The mere listing of these names tells probably as adequately as is needed one chapter of the story of yachting. Certainly few sports in the United States number among their devotees a list of families as distinguished in wealth and position. This is necessarily so. Not much less than $1,000,000 had to be made available by each syndicate. It is so also in England though Englishmen have sometimes wished that the *Shamrocks* did not seem to be quite so connected with the sale of tea. But since the King's yacht has never hesitated to sail against a *Shamrock*, such objections are obviously stilled.

II—The builders

Four syndicates then were formed, four plans made, and with the completion of the plans, the builders had to be chosen. Henry Nevins, of City Island, was an excellent builder, but his yards were not large enough to permit the building of any of the four. The Bath Iron Works had built good boats and was even then constructing J. P. Morgan's new steam yacht *Corsair*. But standing before all these were Lawley and Herreshoff. Both firms of old standing and fame, fully equipped for the construction of boats such as these, they were selected—Lawley for *Whirlwind* and *Yankee*, and Herreshoff for *Weetamoe* and *Enterprise*.

Photographs by Scandlin Studios

HUNDREDS OF LABORIOUS STITCHES BIND EVERY DEFENDER SAIL

John Herreshoff went blind at fourteen, but fifty years after that he could still tell you, running his hands over a small ship model, why she was a fine boat. He started his shipbuilding company at Bristol, Rhode Island, in 1863, attending mainly to the administrative management. His brother Nathanael drew up the plans for him in leisure hours. Some fifteen years later the business had grown so large that Nat left his other position and allied himself permanently to the Herreshoff company, drawing designs for most of their boats. He is still associated with the Herreshoff yards although his family has long since ceased to direct their activities and his son has his own office at Gloucester. A fine old man, every spring he hastens back to Bristol from the South, to visit the yards every other day and utter shrewd and biting criticisms of the way things are going. These visitations are neither resented nor ignored because R. F. Haffenreffer, who is now president of Herreshoff, regards the surviving Herreshoff partner as a splendid designer and one of the ablest builders in the country.

The Herreshoff firm has been sold twice since John B. died in 1915. R. F. Haffenreffer bought it at auction the second time in 1924, and many of the old stockholders still hold their shares. Long honored as a master in shipbuilding, turning out as trim a boat as could sail the seas, excelling in steel work, the firm in its new management continues the fame that has been its for sixty years, still influenced by the genius of the two Herreshoff brothers. Except for the acceptance of more modern methods, for the installation of mechanical conveniences, for the general tightening up of the company into greater industrial efficiency, it remains as of earlier years.

The sheds, sprawling along the clear shore of Narragansett Bay, are redolent with the smells of brine, shavings, and turpentine. Office windows, surveying the spread of shops, are primly curtained in sailcloth. Off in one corner of the yards is the shed where the small boats, stock in trade, are built. Beside it, the carpenter shop, where yacht fittings are meticulously groomed. Farther on the foundry, where the bronze plating is pressed out, the steel frames are formed. Close by is the giant furnace, from whose boiling entrails pours the molten lead to form the keels. And the main shed where the defenders grew.

Here they stood, with a slight wooden partition dividing them, their glistening hulls close neighbors, each the product of long months of careful workmanship. First, to mould the keels. For two weeks the carpenters cut and shape the wooden mould. It must be accurately done, for from this mould would come the finished keel, on whose weight and distribution of weight the balance of the boat depends. Another two weeks and the core box is completed. Then to pour the keels, with the molten lead running from the scorching furnace—this no more than a day's job. After a four days' cooling, the keel is completed and ready for the keel plate.

BURLINGAM PUBLIC LIB.

LAYING THE CANVAS FOR CUTTING

A metal plate, to cover the top of the keel, is affixed, and then the stem and the horn timber. With this the bare silhouette of the boat has taken shape, and the filling-in can commence. From the foundry are brought the steel frames, each forged to its proper weight and measurement, which are affixed to the plate and form a metal skeleton. There, too, the bronze platings have been rolled into shape and are ready to fill in the outer skin. These have been carefully formed, with the bend pressed from the heavy machines. Accuracy is vital; if the platings are off measurement in the slightest degree, the essential symmetry and balance of the boat is lost. When a second bend is required for some of the plates, it is hammered into shape by hand—no machine can create two varying curves in one piece of metal. This is the most difficult and most careful operation of the whole building process.

To fix on this covering, the plating is first bolted on, a temporary proceeding. Workers then clamber about the sides of the boat, drawing out the earlier bolts and with a great din drive in the rivets which are the final pins; saw off, with a sharp mechanical clatter, the short ends which protrude beyond the even sides. The work after that is much of a finishing nature: to complete her interior, which in the case of the defenders is no more than an almost hollow space; to lay the white pine or teak decks; to paint her sides above the water line; to append the necessary fixtures. She now waits only for her masts and sails.

The process at the Lawley yards was very much similar to that at the Herreshoff. Lawley, old in the trade as is the other builder, duplicates the Herreshoff history in many ways. The Lawleys now have small interest in the firm which carries their name and which was founded by George Lawley in 1866. Thomas Hibbard, for many years treasurer, is president of the George Lawley & Son Corporation. He has been with the firm for more than thirty years and, at the time of the second and final migration of the company, bought the yards at Neponset, bargaining for the shore acres as old George Lawley, the president of a rich firm, would have been unable to do. With the new management increased industrialism has set in, and now the yards are mechanized as far as possible.

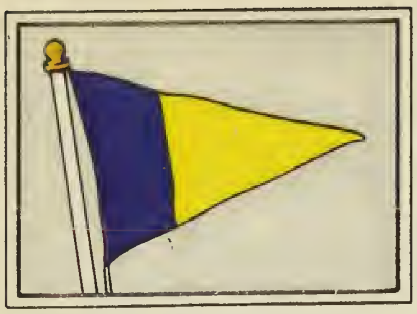
Stolid, heavy looking, the sheds spread out along the water. At the dock, ready to sail when her fittings are completed, floats a brigantine. In one shed are the six and eight meter sloops that may even sail in the Internationals; in another, racing sloops that are to sail in England this summer; in another, power boats. Over by the water is the defenders' shed, large enough for the two boats to build, side by side. Larger than Herreshoff, Lawley seems less disturbed by the order for the defenders. One hundred men can well be spared from their normal five hundred men; one hundred from the two hundred at Herreshoff's caused a slight interruption.

A CLEW CRINGLE TO REPEL STRAIN

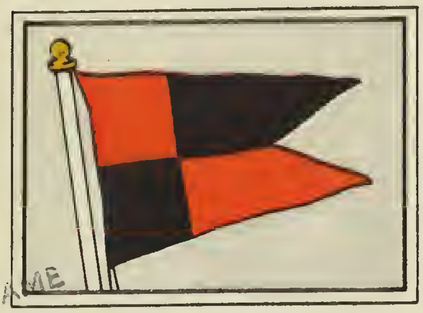
At this yard was built *Whirlwind*, the only one of the four boats to veer from the bronze-plated sides. She is double planked with wood. L. Francis Herreshoff, her designer, explains amicably that he was forced to this because all the skilled bronze-workers available were used up on the first three boats, whereas Lawley still had a supply of excellent ship carpenters. A much longer job than that of plating, the narrow strakes of fine Honduran mahogany are fastened to the steel frames, in two skins to insure water-tightness and stiffness. The other boat, *Yankee*, shows a divergence from the others in her keel, using inside ballast in a bronze plate shell in place of the solid lead keels on which the other defenders were built. Her steel frames follow the final lines of the boat, the bronze plates affixed from deck to rabbet. When she is almost entirely plated with the metal, a small space remains uncovered down in the keel of the boat where great lead pigs are laid and braced. This forms her ballast and must be carefully placed to insure proper trim of the boat. Then the remaining plates are riveted on, and after the rudder has been hung and the decks laid, the body is done. There is small difference in weight of the different boats this year. Both American and English boats are being built to Lloyd's scantling rules, which regulate the exact weight and size of the component parts of the boat, in accordance with her class.

III—The rigging

The boats are now ready for their spars and rigging. *Yankee* had two of her masts constructed at her builder's yards; *Whirlwind* had one done there; *Weetamoe* left one for Herreshoff. But the others—two for *Enterprise* and the accompanying spars for *Whirlwind* and *Weetamoe*—were built at Henry Nevins' yards in City Island. There in a long shed, set up to fit these defenders' masts, the longest ever stepped in racing yachts, the spars were made. A cup defender's mast is hollow and elliptical, a sort of wooden pipe tapering to a solid tip, and it takes six men about two months to build one. First, twenty-foot-long strips of Sitka spruce are joined together with



GEORGE NICHOLS



HENRY WALTERS

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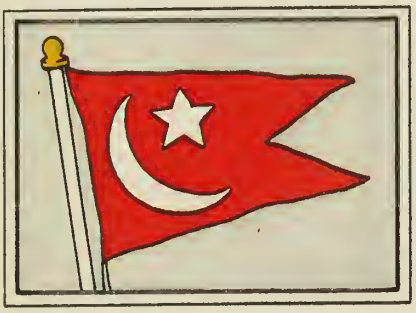
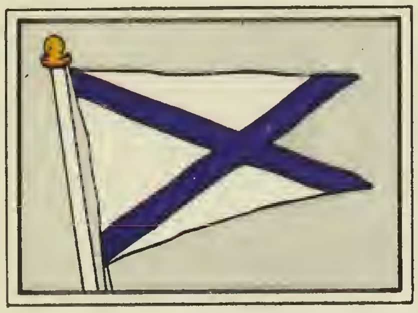
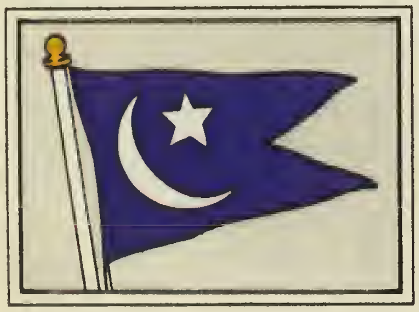


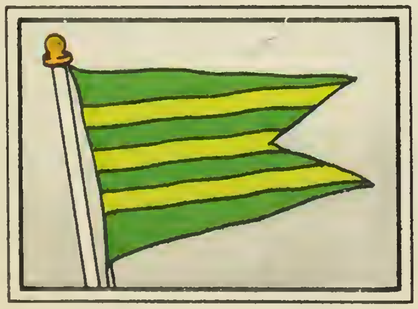
J. P. MORGAN



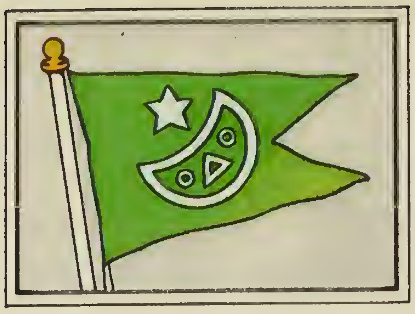
CORNELIUS VANDERBILT



JUNIUS S. MORGAN JR.



GERARD B. LAMBERT

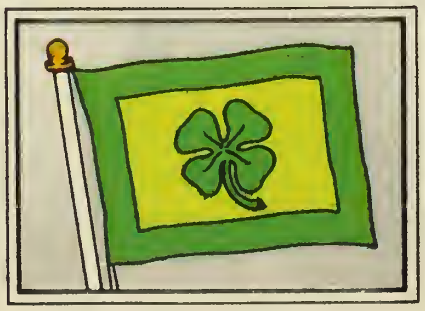


ARTHUR CURTISS JAMES

glue into the long cone-shaped shafts, four of them to a mast. Each segment of the oval is then planed and cut away, leaving an outer shell which in some places is little over three inches thick. A thin colorless glue, made from the white powdered casein glue dissolved in cold water, is painted on the parts to be joined; the sections are pulled together, tightly clamped with metal vises, and stretched over the long row of wooden horses which have been minutely measured and nailed to the floor that the surface may be perfectly straight. There the mast stays for days, with the constant pressure pushing out every excess drop of glue and pulling together the wood surfaces to touching point. After it has been painted, the mast is ready to be hauled by the massive derrick and stepped in the boat.

IV—The sails

At the same time that all these other processes have been going on, sailmakers at the Ratsey & Lapthorn lofts have been cutting and stitching the canvas under which the defenders will sail. The company started at Cowes, England, in 1790; prior to that time the Ratsey family had been shipbuilders. Almost every male Ratsey since then has continued in the firm, with the exception of a few renegades who joined the navy. At the present time there are five lofts: the original one at Cowes, one at Southampton, another at Gourock on the Clyde, a fourth at Gosport, and their American branch at City Island. This year they are making all the sails for both the defenders and the challenger, *Shamrock V* sails being made at the Gosport branch and the American sails at City Island, which is now their largest unit.



SIR THOMAS LIPTON, BART.

This loft was started in 1901 by the Ratsey who now manages the plants in England. They rented an attic from Robert Jacob and stayed there for a number of years. But it gave them very little room, so they built for themselves. The plant now is pretentious for a sail loft: a three-storyed white wooden building about two hundred feet long. George Ratsey manages it, assisted by his two sons, Colin and Ernest. Ernest's small son, now four years old, is already counted as the sixth generation in the firm.

The sails for the American boats are made of Sudan and American cotton: Sudan for many of the most important sails, because it has a longer staple, more strength. On the top story of the shop is the cutting room. On the floor is chalked off, by the use of taut ropes, the measurements of the sails, and the canvas is cut to fit. For the tremendous mainsails, the canvas is spread the length of the room, eliminating all other work for the while. Sharp, stiletto-like instruments nail down the cloth as it is cut. Then down the chute to the sewing rooms. In the case of large sails, they are entirely sewn by hand, from eighteen-inch strips of canvas. With small sails, the strips of cloth are wider and are sewn by machine. The handwork is all done on the second floor. There some fifty sailmakers, resplendent in white overalls, thread and stitch. They wear soft work shoes; street shoes are forbidden to worker and visitor alike as the dirt trampled in from the gravel roads will soil the canvas. Seated at rows of benches as if in a kindergarten, the men sew together the strips which form the sails. Each has his kit of instruments: heavy, strong needles which can pull through the tough cloth; sharp, pointed gadgets which will force a hole if the material is at all combative; two bands made of hide, with a metal-studded portion in the palm of the hand, which act as thimbles; a huge chunk of wax. So much wax has been used for so many years that the floor of the sewing room is as shiny as an old oak floor, and the sailmakers, stitching in their white suits, are jauntily reflected in its polish.

On the floor below, the machine work is done. Two rows of tables line the center of the room, with a girl at each one. Their stitching is as straight as if it were drawn to a line. In another part of the floor, the ropes for the sails are wound, each in wire, or they would slip in the canvas. When all except the sewing on the curved edge of the sails has been done, the canvas is sent back to the third story, where the cutters crease down the edge. From years' experience they are able to mark the curve without the use of a form of any sort, knowing instinctively where the line will fall. Workers spend an apprenticeship of five years before they become cutters or sewers.

Great metal plates have been inserted in some of the corners of the large sails to give strength for the pull of the ropes. In the smaller ones, the holes for the rope have been bound with a hemp and metal grommet. After the final sewing has been completed, the sails are folded up, carried out, and carefully placed in the new fireproof storage shed which the Ratseys had built just for the defender sails. It is large enough for the full width of the mainsail to be extended without a fold. There the sails waited for the boats to be done.

With the launching and then the rigging, the boats have passed the last stage before trying the water. The mast on the *Enterprise*, the first boat done, was stepped at the Jacob's yards in City Island. There a Merritt Chapman wrecking lighter was towed to the pier where the spar lay on wheel carriages. With cables, the stick was hoisted and dropped into position. The rigging was then completed in one day, a phenomenal performance.

Now the four boats may be seen sailing somewhere between New York and Boston. This month they will be sailing in observation races off Newport. But not until late in August will the trial races be run to determine which one of the four will be chosen as the defender to sail against *Shamrock V*. At that time will come the climax in the lives of three of them, the added test to the fourth; one man's plans will be tilted against the others; Lawley's workmanship against that of Herreshoff. The year's preparation will be consummated for most; for one, the final and finest Cup Race remains.

Marconi Rigs

BURLINGAME
PUBLIC
LIB

With which the inventor has nothing to do.

NO ONE knows when first the name was applied except that it could not have been more than twenty-nine years ago because before that time there were no Marconi wireless masts. The incident, like most which make for nicknames, is unrecorded officially, but legend has it that it was an aged and observant lady, back from her first trip to Europe, who spied a sailboat with a now-called Marconi rig and exclaimed: "Look at the boat with the Marconi mast!" The parallel was obvious. The rigging in question, with its ganglia of struts and wires, did look like a Marconi wireless mast. And so the name stuck, giving the rig, which actually was no new thing, a decided flavor of modernity. Senator Guglielmo Marconi had nothing to do with it (any more than he has to do with Marconi cigars). He has, however, undoubtedly sailed on yachts which had Marconi rigs. But aside from that, it is impossible to trace any connection between the inventor and the rig which commonly bears his name.

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Wherever the America's Cup races are discussed, we are sure to hear more or less about the Marconi rig. Or perhaps it will be termed the "jib-headed" rig. Or, again, the Bermudian rig. To the tyro, these terms mean little and are therefore more or less confusing. And yet it is all so simple. For, whether you prefer the term Marconi, jib-headed, or Bermudian, it all comes to the same thing—the mainsail, or largest sail, is triangular in shape and replaces the old reliable gaff-headed mainsail, which had four corners and a spar, or gaff, along its upper edge, or "head," to be more nautical. The Marconi is, therefore, simply a three-cornered, gaffless sail.

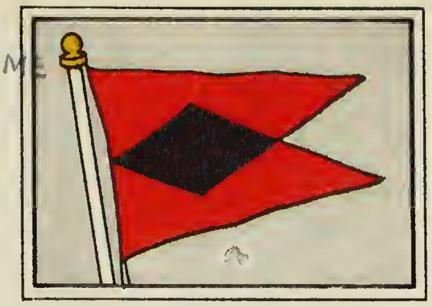
The change from gaff-headed mainsail to jib-headed mainsail was made comparatively recently when it was discovered, shortly after the War, that the latter type of sail was a more efficient driving unit than the gaff-header. Aërodynamic theories proved it. Actual tests proved it. And today practically all racing yachts carry a jib-headed mainsail—and many cruising craft as well.

However, it is not quite so simple as it seems, this change from gaff-sail to triangular sail. For in place of the old mast and topmast came a single towering spar, taller in some cases than mast and topmast combined in the former rig. And the strains came in different places. Masts were lost, and still are. But our designers, with several years experience behind them, have evolved spars and rigging plans which are remarkably light and efficient.

All the four aspirants for the defense of the America's Cup, and the challenger also, will carry the Marconi rig. They have no choice in the matter, for it is so ordained in the agreement entered into between the New York Yacht Club, holder of the famous trophy, and the Royal Ulster Yacht Club, the challenging club. While no announcement has been made regarding this stipulation, there are undoubtedly two reasons for it. First, the tremendous rigs required on the cup boats (the masts are the tallest single spars ever shipped in a vessel of any type, anywhere) were, and still are, the cause of great anxiety. Again, it is barely possible that on these boats the old gaff-headed rig would, at times, be superior. It can easily be seen that neither challenger nor defender would want the other to gain a possible advantage, either in safety or speed, by carrying a different rig. Wherefore the iron-bound rule that both craft must carry jib-headers.

While the mainsails on the cup boats are known officially as "jib-headers," they will be constantly referred to as Marconis or Bermudians. Any, or all, are correct. It is a matter of preference, as no standardized term has yet been adopted in nautical circles or elsewhere. Britishers invariably use the term Bermudian as the rig now used resembles in many respects the rig used for some hundred years by boats hailing from the Bermuda Islands. Actually, we might as well term it the "bugeye" rig, for down on Chesapeake Bay, also for some hundred years or so, they have been using a rig so similar, on both "skipjacks" and "bugeyes," that the differences are hardly worth noting. In fact, triangular mainsails were probably used not long after the Vikings discarded their square-sails for a sail which would be more efficient in sailing to windward, an art which went undiscovered for many years after Eric the Red made his epic voyages across unknown and uncharted oceans.

The towering spars on which are set the jib-headed sails are marvels of engineering skill and expert workmanship. The rigging, with its various struts, or "spreaders," has been carefully planned after vast experience with actual rigs has been backed up with scientific tests and experiments. We hear that the rig is dangerous. And there is truth in this claim. For spars and rigging are cut down to the narrowest factor of safety possible, all to save weight. For weight aloft is detrimental to speed, inasmuch as it impairs a boat's stability or sail-carrying power—what weight is saved in the rig may be placed in the keel and the stability increased. And increased stability means increased speed, especially in brisk breezes, and the utmost in speed is naturally what designers are striving for in a craft which is to compete for the blue ribbon of the sea—the America's Cup.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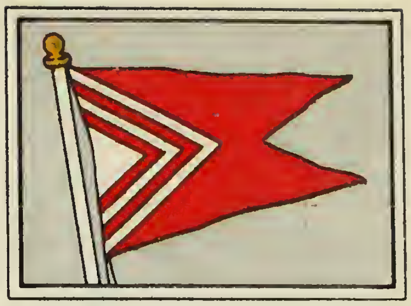
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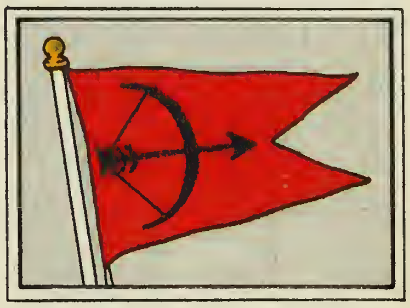
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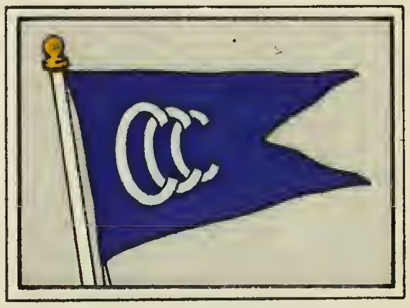
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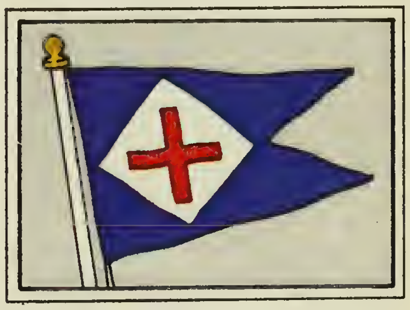
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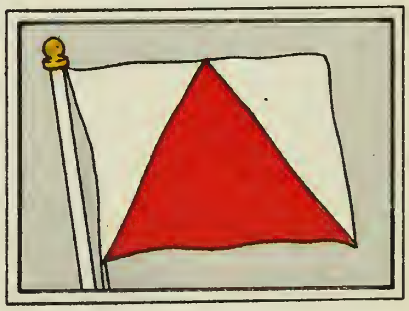
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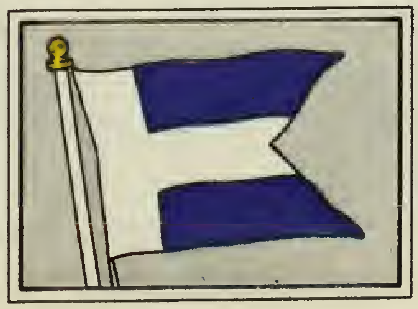
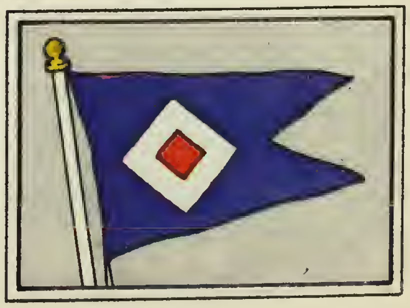

LANDON K. THORNE


GEORGE PYNCHON

The Guggenheims

Getting and spending, they have not laid waste their powers.

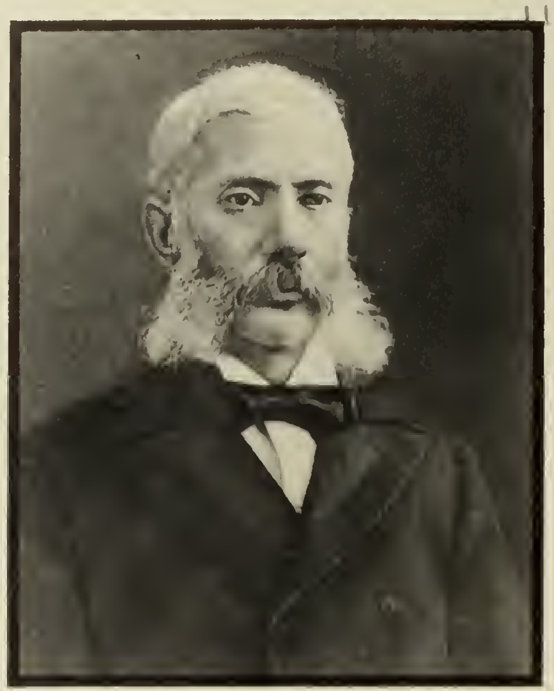
BURLINGAME
PUBLIC
LIB.

PRIMORDIAL man sat upon a junkheap and gazed about him in glee and mystification. That the animal-vegetable-mineral sphere upon which he sat was a treasure house did not enter his head. He named all the animals and ate an apple and moved into a new house, we are told, and died in ignorance of the fact that the youngest son of his great-great-great grandson had found a way of utilizing some of the contents of the junkheap. But Tubal-cain had contrived an alloy of copper and tin that was ductile but strong and had extracted iron from its ore. And he told others how to do the same.

The fact that Tubal-cain worked in copper and brass generations before the flood has not been of particular service to archæologists who desire to locate the surveyor's stakes of the Garden of Eden. For copper is in Alaska, it is in the highest Andes, the heart of Africa, the steppes of Siberia, in Mexico, the United States—everywhere. Gravimetrically, an important fraction of the earth's substance is copper. The world has known that for a long time and has thought nothing of it. Copper has been used in compounding alloys as a baker uses water: to dilute, to "work" the new substance, because it has always been common and cheap. For that reason, also, it has been used for the coins of least value—coins to toss to beggars or to lay on dead men's eyes.

The Forty-niners found copper and passed on, looking for gold. The Mormons in Utah scorned the copper that lay in the world's richest hill, twenty miles from their capital. Meyer Guggenheim, catalyzer of the world's greatest copper fortune, never gave copper a thought until he was over fifty.

Thus it has always been with copper. It has always been an afterthought or a last resort. It is the ugly duckling of the metals, and an upward trend in its securities to superstitious traders is an evil omen. Months before the crash of 1929, oldsters who remembered other serious market breaks said, "Look out. The market's going to break. Coppers are going up. When coppers go up, it is a sure sign." Thousands of shares were traded six months before the crash on the copper hunch.



P. & A.

MEYER GUGGENHEIM, THE PATRIARCH

Brown Bros.

MEYER AND HIS SONS—FOR EACH, A MILLION

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Simon des Meier Guggenheim, his son Meyer, his second wife, and her children came from Langnau, Switzerland, to Philadelphia in 1848. Between those points—family tradition has it that it occurred while their slow-moving craft plowed the Atlantic—Meyer Guggenheim and his step-sister Barbara Myers fell in love, but at the time the importance of that event was obscured by the general importance of the Guggenheim migration. For three hundred years the family had lived in or near Baden. Simon's was an unheard-of action. Some cousins and aunts wagged their heads and said, "Such a thing, such a thing."

When Meyer was thirty-nine, he had been in America about twenty years. In 1852 he had married Barbara Myers, his step-sister and companion on the voyage from Switzerland. She had borne him eleven children, nine of whom were to survive her. She was a devout woman and a loyal wife. He had founded two successful companies and had acquired a competence. His friends in America and his relatives in Langnau said, "Look at Meyer. Did we not always say he would do well in the new country?"

In 1872, he and M. H. Pulaski began to manufacture and import from Switzerland laces and embroideries. They established factories in St. Gall and elsewhere, and Meyer's sons, the oldest of them now approaching manhood, joined the enterprise. Each in turn was sent abroad to study the business; each in turn was admitted to the firm as soon as he reached his majority. Again Meyer's friends applauded. "Look at him," they said. "In only twenty-five years he has done this."

But Meyer was not satisfied. He said, not once, but many times, "I have seven sons, and each of them will have a million dollars." A step in this direction was to dissolve the firm of Guggenheim and Pulaski and create a new one, M. Guggenheim's Sons. It was a good thing he had not gone off with the gold hunters in '49. At home he had made a million dollars. But he had six to go.

In 1879 mining operations at Leadville had just begun, but many men had already become millionaires. So thirty years after the Gold Rush Meyer Guggenheim again heard promises of wealth in the West. But he did not at once rise to the lure. Not until Sam Harsh and Charley Graham, fellow Philadelphians, came to him wanting to borrow money to take up a partner's share in the Minnie and A. Y. claims. The shaft of the Minnie was full of water and could hardly be worked. Attempts to work the A. Y. had revealed similar conditions. But there *was* silver in both claims. Harsh and Graham both thought they could get it out. Meyer pulled at his mutton-chop whiskers and

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Culver Service

AT THE LEFT, DANIEL, NOW THE GUGGENHEIM PATRIARCH; BESIDE HIM HIS WIFE, FLORENCE SHLOSS. AT THE RIGHT, THE HON. SIMON; BESIDE HIM HIS WIFE, OLGA HIRSH. THESE FOUR ARE AUTHORS OF THE GREATEST ALREADY FUNCTIONING GUGGENHEIM PHILANTHROPIES

thought the matter over. Life was not long enough to make his Seven Millions slowly. Other men had made millions in a few months in Leadville. He told Graham that he would not lend the money, but he would go into a partnership.

Meyer, who had driven one of his own spice wagons, was not likely to sit in Philadelphia and let others work his claim in Leadville. He packed up and went to Colorado and found conditions worse than he had anticipated. Then he wrote home to Benjamin, his fifth son, then nineteen and a student at Columbia. He told Benny to come to Colorado and learn about mining at first hand. Later he could go on to college, specializing in metallurgy and engineering. Maybe, thought Meyer, young Benjamin would find a way to smelt sulphide ores at a cost that would leave a little profit for the miners.

Smelting costs did come down, and sooner than Meyer had dared to hope. By '86 a ton could be treated for $7.00 or $8.00. Enormous bodies of sulphide were opened both in the Minnie and the A. Y. and production was sometimes as high as $100,000 a month. The Seven Millions upon which Meyer's eyes had been steadfastly set were at last coming within his grasp.

The lace business was liquidated as rapidly as possible. Isaac was left in charge of that, and the other sons were all called to Colorado. Meyer offered to lend them, at interest, sufficient money to go into smelting. They bought an interest in the Holden smelter in Denver (1886), built one of their own in Pueblo (1888), and founded the Philadelphia Smelting & Refining Company. Benjamin, who had finished his study of metallurgy, became the technician; Simon and William studied sources of supply and the methods of ore purchasing and took over the management of the smelters. Murry and Solomon were sent to Mexico to supervise properties which were rapidly being acquired there and to erect additional smelters. All the brothers had become coppermen.

Throughout the next decade Guggenheim influence and Guggenheim holdings grew enormously, became dominant. By 1899 all other important smelting interests combined and endeavored to persuade the Guggenheims to come with them into the American Smelting and Refining Company. They held out until January 1, 1901, when Daniel's shrewd vision led them to surrender their properties to American Smelting and Refining for $45,200,000 worth of stock *and* control of the company. Daniel, who from the first had been quietly acknowledged as the leader of Meyer's sons, was made president; Isaac, Murry, Solomon, and Simon directors. (The two remaining brothers, William and Benjamin, retired to private enterprises and to supervision of the affairs of M. Guggenheim's Sons.) The sons had acquired all of their father's holdings and had paid back the money they borrowed from him with interest.

Keystone

AIR-MINDED AMBASSADOR HARRY F., SON OF DANIEL

Meyer was seventy-two, and each of his sons had his million.

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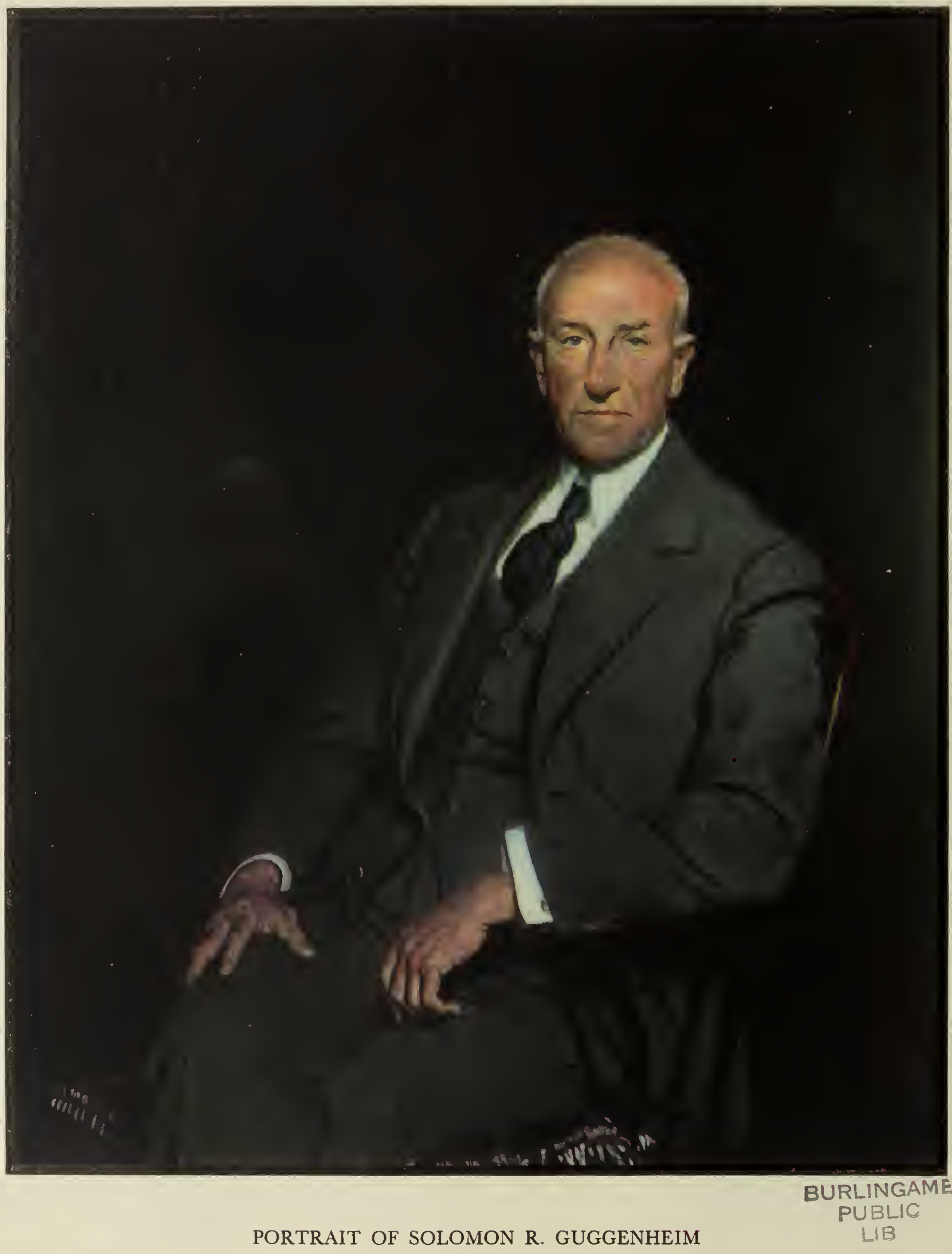
Thus was created one of the largest—said by some to be the second largest—fortunes in the world. The Rockefellers have more wealth. Henry Ford is wealthier than any Guggenheim. "But," someone has said, "there is only one Henry Ford, and there are a lot of Guggenheims."

Meyer, the patriarch, died in 1905, Benjamin in 1912, and Isaac in 1922, but the spirit of the family remains: "We are Seven." The custom of common council and unanimous consent early established among them was maintained by the Six, by the Five, and now by the Four (William has never rejoined the firm). When they joined American Smelting, Daniel remained either president or chairman of the board continuously

JOHN SIMON, IN WHOSE MEMORY THE GREAT FOUNDATION



PORTRAIT OF SOLOMON R. GUGGENHEIM

BY SIR WILLIAM ORPEN

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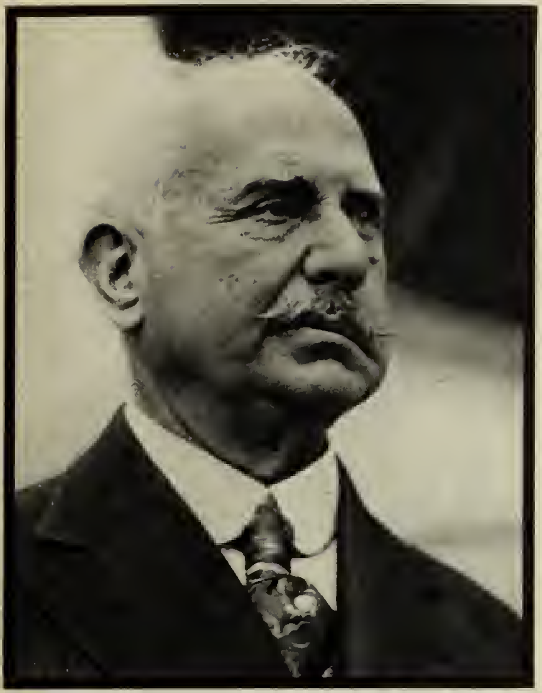

P. & A.

ISAAC, OLDEST SON, CONNOISSEUR

until his retirement from active business in 1919, when he was succeeded by Simon. It could be said that Daniel is today the solon of the house, but the brothers themselves make no distinctions. The brothers have always had a common office. They meet in it twice a week. All important decisions must be unanimous.

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These meetings and these decisions have played large parts in shaping the copper map of the world. American Smelting and Refining is now a tremendous property, greatest of all smelters and refiners of metals, whose net income in the record year 1929 mounted to $21,831,500.

But American Smelting and Refining has not consumed all of their time and energy. For example, not far from the American smelters at Antofagasta, in Chile, are the famous old Chuquicamata copper fields where ore is low grade. As soon as feasible means of treating the Chuquicamata ores were found, the Chile Copper Company was formed, and Daniel, who had been largely responsible for the development, sent his son Harry F. to Chile as Man-on-the-Ground. First as observer and later as chief lieutenant, Harry watched Chile Copper absorb a $50,000,000 investment, then grow into a company with assets of $200,000,000, then sell out in 1923 to Anaconda.

No. 120 Broadway remained the Copper capital. For in the West had grown up, out of the first eager delvings into the earth, a group of highly successful copper mining companies. One was the Utah Copper Company, owning the mammoth mountain at Bingham [FORTUNE, April, 1930], yielding generous quantities of low-grade ore at each stroke of the pick. Another was Nevada Consolidated Copper, whose ore reserves are now calculated at 250,000,000 tons. In 1915 these companies, together with the Braden Copper Mines Co. (in Chile) and some mines in Alaska, began to converge into the Kennecott Copper Corporation, now the greatest of the world's copper companies. Here is the Morgan influence, for three Morgan partners meet with the Kennecott board. But the historic name in Kennecott is not Morgan, nor Daniel Cowan Jackling, but the name of Guggenheim.

Nor do the four brothers ponder only the problems of copper as they meet to direct their interests. One crucial meeting must have led them to invest in the second of Chile's two industries, an investment which ended with the production of 44 per cent of Chilean nitrates by companies Guggenheim-controlled. Another day saw the entrance of the Guggenheim Brothers into the $250,000,000 bankers' pool of last October. And yet another meeting, most recent of critical conferences, approved the new nitrate cartel by which Chile hopes to face and conquer the growing threat of synthetic nitrogen. This is now the major Guggenheim problem.

Culver Service

MURRY—HIS THE MONEY BRAINS

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It would be a satisfaction to be able to draw each of these four Guggenheim brothers from the council room at 120 Broadway and give him a separate identity. Thus one might note that Simon, chief executive of the smelting company, is a suave, gentle man long used to meeting the world in public places. He alone has ventured into politics. He was nominated for lieutenant governor in Colorado before he was old enough under

Keystone

TWO DAUGHTERS OF SOLOMON MARRIED INTO THE ENGLISH ARISTOCRACY. LEFT, THE EARL AND COUNTESS OF CASTLESTEWART (ELEANOR MAY). RIGHT, THE J. R. LAWSON-JOHNSONS (BARBARA JOSEPHINE), NOW DIVORCED

Blank-Stoller

BENJAMIN, WHO DIED ON THE TITANIC

its constitutional requirement to accept the nomination and accordingly withdrew his name. Two years later he was nominated for the governorship and again withdrew. But when, in 1906, the Colorado Legislature elected him to the United States Senate, he withdrew from his business interests instead of from politics. At the end of one term, he declined to stand for reëlection and settled in New York City, succeeding his brother Daniel as president of American Smelting and Refining in 1919.

International

WILLIAM, ONLY NON-COPPER BROTHER

And, after Simon, one might summon Murry. What of Murry? The best financier of the four, some will say, and as an expert on copper prices, the peer of any living man. Then Solomon, the sportsman, who married a Rothschild, who was painted by Orpen, whose daughters married into the British nobility. Then Daniel, the oldest living Guggenheim, father of that Harry who went to Chile and who now is the U. S. Ambassador to Cuba. Speak of Daniel, and one thinks of the $3,800,000 Fund for the Promotion of Aëronautics which he founded in 1926 and of the Daniel and Florence Guggenheim Fund of $4,500,000 for the benefit of various charitable organizations.

But it would be unjust to single out Daniel for his benefactions. Rarely has a great family fortune been at once more prudently conserved and more wisely distributed. Notable as were the contributions of Daniel, they could not overshadow the earlier gift of Simon and his wife to create the John Simon Guggenheim Memorial Foundation. Through this gift ($3,000,000 in 1925; an additional $1,000,000 in 1929 to cover Pan-American and South American fellowships) hundreds of scientists, musicians, historians, writers, painters, and architects have been enabled to complete projects they could not handle unaided. Last year a third brother, Murry, established a third great foundation.

These are the large Guggenheim foundations, but the list of the brothers' benefactions is endless. A day nursery and a kindergarten owe their existence to Solomon. Benjamin, who went down in the *Titanic*, left some $115,000 to various charities; to the Metropolitan Museum, Isaac willed his paintings. Daniel and Murry together created the Fund which pays for the Sunday concerts by the Goldman Band in Manhattan's Central Park. All the brothers united to erect a building at the National Jewish Hospital for Consumptives in Denver, and, as a memorial to their mother, the annex to Mt. Sinai Hospital in New York.

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So, finally, the unity of this family defies division. More like the Rothschilds than any other contemporary dynasty of wealth, the Guggenheims have demonstrated the validity of copy book proverbs. They have worked early and late, have been decent and generous citizens, and have never forgotten what Meyer Rothschild said (and what Meyer Guggenheim deeply believed): "My sons, be as one." Like the Rothschilds, they have had their share of abuse (it was once said: "The smelter trust is one of the most oppressive known to the people of the West, and the Guggenheims are its head and front"), but like the Rothschilds, they have moved steadily forward in the estimation of their adopted people.

One difference must be noted. Meyer Amschel Rothschild bade his descendants intermarry, and they obeyed him implicitly. The sons of Meyer Guggenheim came to manhood in a time when society frowned upon intermarriage. It will remain for the third generation to demonstrate which policy serves better to preserve the vigor of the family, the integrity of the fortune. The brothers had many daughters, few sons. That Isaac's name be not lost, the son of his daughter Beulah is called Isaac Guggenheim II. Simon lost his eldest son, and another, George Denver Guggenheim, is now returning from the African jungles to work for the Guggenheim nitrate interests.

Daniel's son Harry, now the most active of the third generation, has no sons.

HERE THE SURVIVING ACTIVE FOUR MEET TWICE EACH WEEK

LINGAME
BLIC
IB.

Photographs by Margaret Bourke-White

AT COMPRESSOR STATIONS, GAS LOSES ITS IMPURITIES AND BY-PRODUCTS AND RECOVERS ITS PRESSURE

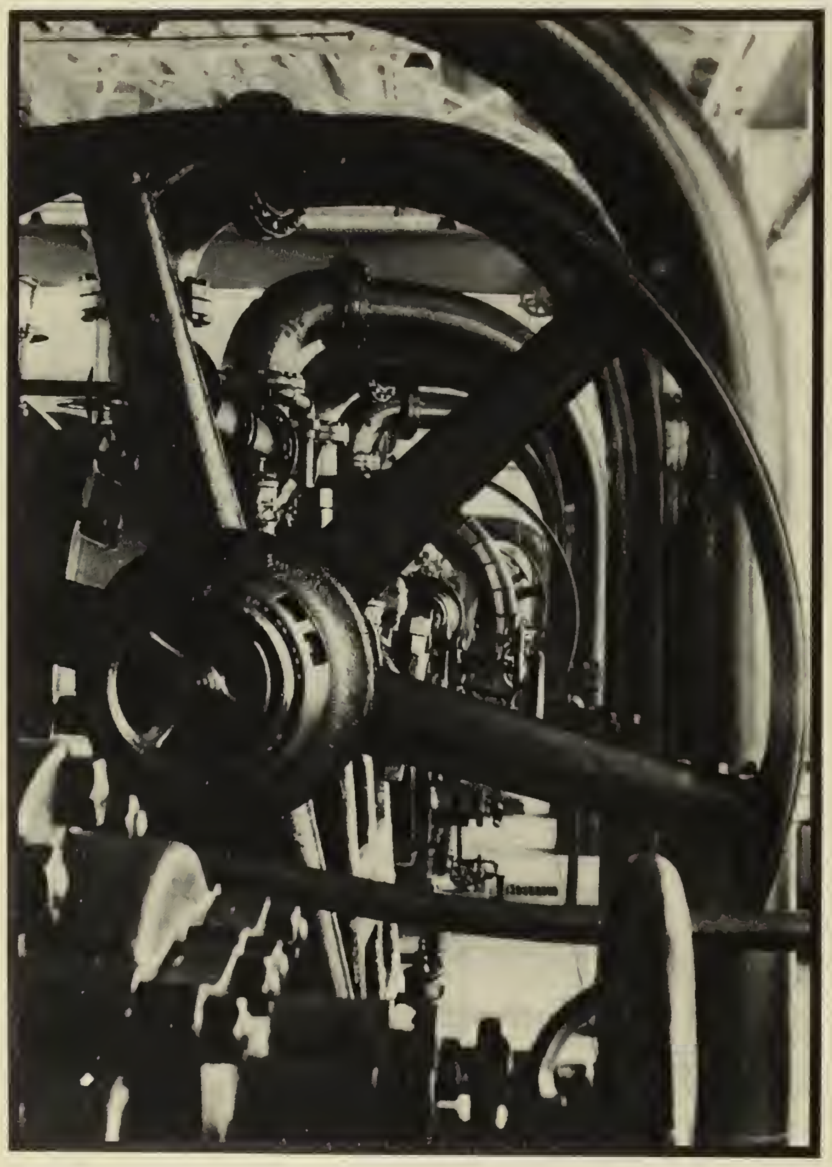
Columbia and United

The Profits of Peace versus the Losses of War. Why Columbia Gas & Electric and United Corporation might have been industrial enemies. And how they became, instead, industrial friends.

WHEN, last month, the United Corporation, Bonbright and Morgan utility holding company, proposed to acquire a 25 per cent interest in Columbia Gas & Electric, operating utility serving a population of over 5,000,000 U. S. citizens, a further notable exception was taken to the already somewhat shopworn adage about competition being the life of trade. To the layman (as, for instance, a member of the U. S. Senate) there appears something mysterious and ominous about any rapprochement between large corporations and particularly large public utilities. For the outsider clings stubbornly to an industrial philosophy which the brighter industrial minds have long since abandoned. The major premise in this philosophy is that every corporation is the mortal enemy of its competitors, that it desires not only to become the greatest of its kind but also to exterminate its fellows and remain the sole survivor of a bloody and stricken field. Having realized this ambition, the victorious corporation then proceeds to tax the public with exorbitant prices.

Now this naïve, romantic, and terribly anti-social theory was actually held by 19th century captains of industry, and the senior Mr. Rockefeller, for example, did really make the dream come virtually true. But the management of big business today, and particularly of the utility business, is in the hands of men whose vision is not limited by the confines of any single corporation. The operating man of the first caliber is working with the coöperation of the banker, is looking at his industry with a financial as well as an operating eye. Where his actions are often misinterpreted as proceeding from considerations of power, they are actually as much motivated by considerations of profit. Nor is there anything less profitable than a war, particularly a war in which a complete victory is impossible. The utility man of today knows that there are too many lusty, well-financed utility systems for any one to conquer the others. He knows that if the utility in which he is interested wars with its neighbor, neither will pay any dividends for a long time to come. Instead, therefore, of attempting to match turbine with turbine and kilowatt with kilowatt, he confers with his rival, smokes with him a long, black cigar of peace, and emerges with plans for a holding company in which both operating companies may amicably exist and mutually profit. To the financially-minded, industrial conflict is worse than a crime; it is a *cliché*.

Meanwhile, however, the suspicious observer, watching the banker's efforts at protecting his investment, decides that there is being formed a trust, a monopoly, and an octopus. As a matter of fact, and from a technical standpoint, the big utility holding company is a step away from, not toward, a monopoly. When Bonbright & Co.'s Landon Ketchum Thorne encouraged the formation of American Superpower, he arranged, in effect, for a community of interests between the major eastern utilities and in so doing guaranteed that no one would absorb its companions. It is not a disturbance of the *status quo* but the preservation of the *status quo* that prompts peace between potential antagonists too evenly matched for profitable warfare. Union without conquest; amalgamation without destruction; a peaceful penetration with the lion and the tiger lying down together—this is the newer philosophy of industry. From the standpoint of the public's relations with its utilities, it may not make much difference whether one corporation or a hundred associated corporate groups become superpowerful. Nevertheless those relations might at least be clarified if the party of the public part realized that not the Octopus but the Omnibus symbolizes the utility of today.



HERE GAS IS COMPRESSED TO 325 POUNDS PER SQUARE INCH BEFORE STARTING ON ITS JOURNEY THROUGH MILES OF TRANSMISSION PIPE

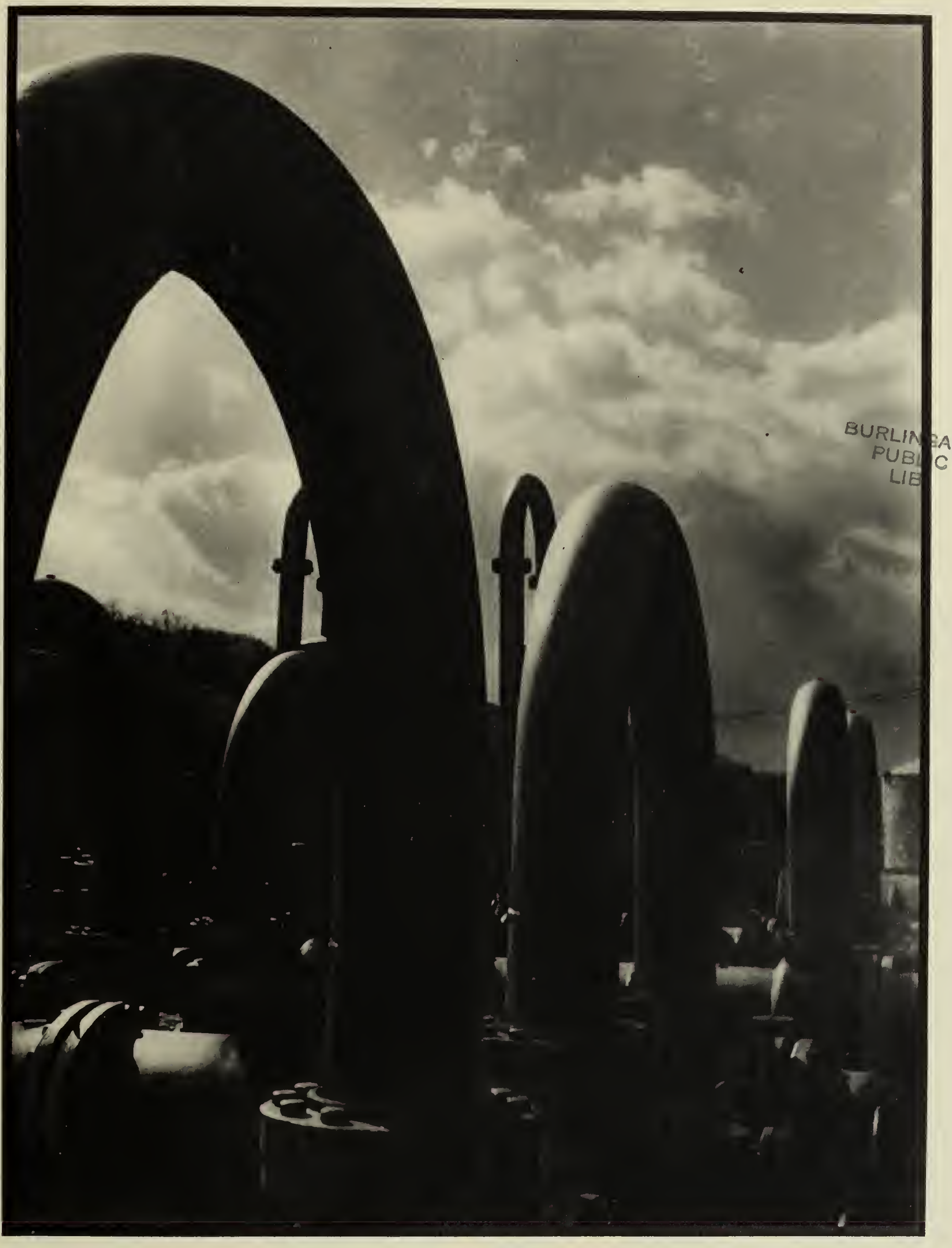
• • •

Nor could a better example of hands across the dynamos be asked for than the acquisition of Columbia Gas & Electric stock by United Corporation and the election of Columbia's Philip G. Gossler to United's directorate. For the circumstances leading up to the United-Columbia stock transfer are circumstances which under the old competitive philosophy would have unquestionably resulted in warfare between the contracting parties, and the present amicable relationship is an excellent instance of contemporary utility tendencies. Columbia Gas & Electric Corporation is a conservative, long-established, ably-managed utility system which in 1929 sold about $70,000,000 worth of natural gas to over 1,000,000 consumers and about $27,000,000 worth of electricity to about 314,000 consumers. It sold more natural gas (144.6 billion cubic feet) than any other company in the United States, and although its electric business is profitable and progressing, natural gas remains its major product. Columbia is an outgrowth of a local gas company which in 1894 began to supply Charleston, West Virginia, with natural gas from near-by gas fields. Expanding north and west, acquiring a franchise here, a utility there, the Columbia system in 1926 met and merged with the Ohio Fuel Company, which had begun in the Pennsylvania fields and snowballed south and west from the district around Pittsburgh. In the merger the Columbia name was retained, and Columbia's Mr. Gossler remained operating head of the combined systems; but Ohio's George Crawford became chairman of the present corporation. There are three Crawfords, Brothers George and Fred and Cousin Harry, alike in their reluctance toward personal publicity, a reluctance which, coupled with the fact that no individual owns more than 2 per cent of Columbia stock, veils the company's ownership in corporate obscurity. The presence of Clarence M. Brown, of the Pittsburgh Plate Glass Company, and of Henry C. McEldowney, of Pittsburgh's Union Trust Co., on the directorate indicates that the omnipresent Mellons are not entirely absent; nor is there any secrecy about Director Harold Stanley's membership in J. P. Morgan & Co. In any event, it is obvious that Columbia is not likely to suffer from any scarcity of financial backing.

And Columbia is equally fortunate in its operating efficiency and earning capacity. Unlike many large utilities with relatively far-flung and isolated centers connected chiefly by a common control, Columbia has put together a compact and coherent network whose 11,000 miles of transmission piping are as consecutive and as coördinated as the lines of a railroad system. Since purchasing (in 1928) the Ohio gas properties of Cities Service, Columbia has had hardly an Ohio competitor, except that Standard of New Jersey's East Ohio Gas Co. now and presumably forever supplies the gas needs of Cleveland, Youngstown, and Akron. Divided into six main systems—centering respectively at Cincinnati, Ohio, Columbus, Ohio, Dayton, Ohio, Pittsburgh, Pennsylvania, Charleston, West Virginia, and Binghamton, New York—Columbia is located in thickly populated districts, in which every long-distance pipe line may reach out with profitable branches. The company is also blessed with the most ample reserves of wells and acreages; operated during 1929, for instance, only 14 per cent of the proved acreage under its control. As for profit, the 1929 consolidated statement showed a net income of $32,161,139.

Yet these facts and figures, vital as they are, represent nothing new or unexpected and would not in themselves account for United Corporation's interest in Columbia. The dynamic factor in the Columbia equation is the recent and current development of the natural gas industry, the division of the gas industry between the natural and the manufactured product, and the presence, among United's assets, of large holdings in three of the great eastern distributors of manufactured gas. Even the briefest consideration of these three factors is sufficient to demonstrate that United's eagerness to add a block of Columbia stock to its portfolio represents much more than a desire to make an obviously excellent investment.

Natural gas, as everyone knows, comes out of wells, frequently out of the same wells that produce the petroleum which natural gas chemically so much resembles. It has twice the heating value of manufactured gas, is easily the cheapest of fuels, and comes very close to justifying its enthusiasts' description as the ideal heating agent. But,



LIKE ROMAN AQUEDUCTS, THE ARCHED PIPES STAND OUT AGAINST THE SKY

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unfortunately, gas wells are not ordinarily located in the vicinity of the great centers of population. Such cities as New York, Philadelphia, Washington, Baltimore, and Boston, for example, are manufactured gas cities, supplied by a utility company which makes city gas within the city limits and thus avoids a transportation problem. Until the last few years, therefore, it was said that the potential development of natural gas suffered from an equally natural (i.e., geographical) limitation.

Today, however, the natural gas industry is in the process of overcoming the handicap of distance by the construction of long-distance pipe lines. Improvements in pipe line engineering (especially the welded pipe line energetically sponsored by Henry L. Doherty's Cities Service) have resulted in the 540-mile line between Monroe, Louisiana, and St. Louis, and pipe has already been ordered for a 950-mile line from Amarillo, Texas, to Chicago. Pipe lines of such extent obviously leave no section of the country remote from the advantages of natural gas and equally obviously permit the formation of supergas companies, just as the long-distance transmission of electricity permits the formation of superpower companies. And the most logical direction of natural gas expansion is not so much from the southern gas fields north as from the mid-western gas fields east. Along the Atlantic seaboard lies a great industrial and domestic market, a market which Columbia, of all natural gas companies, is most able to reach. Already one Columbia pipe line terminates in the suburbs of Philadelphia and another in the suburbs of Jersey City. A third line, now under survey, will run from Columbia's Charleston fields through White Sulphur Springs and down the Shenandoah Valley to the eastern seaboard. Here, evidently, is a most tangible evidence of the natural gas eastern invasion, an invasion summed up in the popular impression that New York will have natural gas by 1932 and that Columbia Gas & Electric will supply it. Nor is there the slightest engineering question but that Columbia could deliver natural gas along the Atlantic coast at a price that would give the established companies the keenest competition. Certainly the situation provides the setting for an industrial conflict of the first order.

And just as such a sectional warfare would find Columbia leading the attack, so also would it find United Corporation directing the defence. United has attracted the most publicity through its holdings in Niagara Hudson, the up-state New York utility which New York's Governor Franklin Roosevelt so watchfully eyes. But United has also an interest (959,921 shares) in Public Service of New Jersey; an interest (6,081,846 shares) in United Gas Improvement; and an interest (202,900 shares) in Consolidated Gas of New York. Public Service of New Jersey supplies some 750,000 consumers with manufactured gas; United Gas Improvement supplies 456,000 Philadelphians and 226,000 additional eastern Pennsylvanians with manufactured gas; and Consolidated Gas supplies some 1,100,000 New Yorkers with manufactured gas. Backed by a combination of Morgan and Bonbright interests, and with American Superpower its largest shareholder, United Corporation would be an extremely formidable antagonist in a natural versus manufactured gas conflict.

But (judging from all present indications) there will be no battle, and if natural gas does come to New York (as it very well may), it will be delivered perhaps by Columbia

UNCOOLED GAS WOULD REACH TEMPERATURE OF 1000 DEGREES FAHRENHEIT

GAS PUMPED THROUGH OIL LOSES SAND, WATER, SILT

IMPACT

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but sold certainly by Consolidated, with the consumer probably burning a mixture the exact proportions of which he will neither know nor likely care. Few utility interests are so opposed as to be irreconcilable. Both President Gossler of Columbia and President George Howard of United well knew that the most economical moment for a peace treaty is before hostilities have developed; and how awkward, indeed, would have been the position of Morgan-Partner Stanley of Columbia and Morgan-Partner George Whitney of United if the two corporations had not adjusted their difficulties. So United offered to acquire (on a stock exchange basis) 25 per cent of Columbia stock, and Columbia directors wrote to their stockholders, advising them that the exchange appeared equitable and advisable, and all such stockholders were given the privilege (until June 10, 1930) of sending Columbia common certificates to Messrs. J. P. Morgan & Co., 23 Wall Street, New York, or Messrs. Drexel & Co., Fifteenth and Walnut Streets, Philadelphia, or the Union Trust Company of Pittsburgh, P. O. Box 755, Pittsburgh, Pennsylvania, and receiving for each such certificate one-third of a share of United Corporation $3.00 preference stock plus one and one-half shares of United common. Thus Columbia may expand to its uttermost with every cubic foot of natural gas sold, profiting the holders of United Corporation securities while, on the other hand, Columbia stockholders acquire an interest in every manufactured gas meter operating in United's eastern affiliates. Thus natural gas finds its new market while manufactured gas keeps its old customers, and a potential disturbance is averted with no interruption of dividends.

The natural gas industry is today rapidly expanding, rapidly combining, rapidly extending its pipe lines to new cities and new markets. There is every likelihood that it will eventually extend into every portion of the country and take over a constantly increasing portion of both the industrial and domestic load. Whether its competitive relations with manufactured gas will invariably be neatly and swiftly adjusted is, of course, unpredictable. It should be realized that manufactured gas has still many more customers than natural gas, that it is the larger branch of the industry from the standpoint of capital invested, and that its production is also rapidly increasing. That the domestic use of natural gas will increase as more and more cities come within the range of the natural gas pipe lines is, however, sufficiently obvious. It seems altogether likely that the long-established manufactured gas companies in the larger manufactured gas cities will in most cases continue to act as the distributing agents of gas natural or gas manufactured and in so doing will be not in opposition but in coöperation with the natural gas producers. It is also likely that the progress of natural gas will be accompanied by many such arrangements as that which Columbia and United have just concluded. Opponents of utilities will argue that such affiliations are inimical to the public good, that the consumer would benefit from a downright struggle between the gases. To debate this proposition would be easy, but not very relevant. For there is little possibility of the utility leader provoking or even permitting a Donnybrook Fair to develop within his industry. There is not much likelihood of fratricide between the Manufactured Cain and the Natural Abel—not, at least, as long as each can so pleasantly and profitably contrive to become his brother's bookkeeper.

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In these days of colossal figures, not all of us find it easy to realize just how large a sum a "billion dollars" really is.

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Were dollar bills laid end to end, a billion of them would reach almost *four times around the globe!* Three and nine tenths times is the actual figure.

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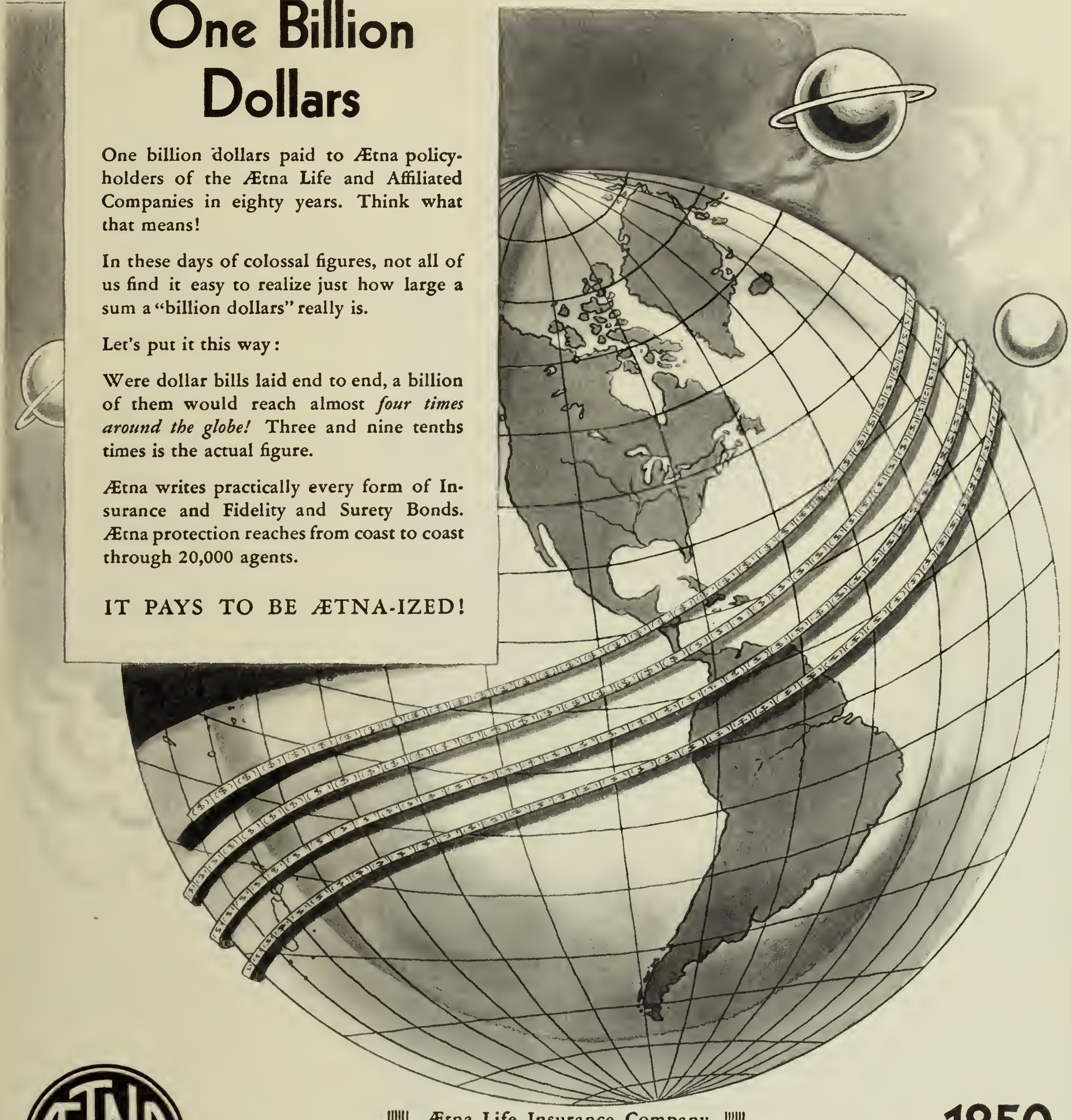

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tools. Even railroaders, whose living comes from freight, despise the freight car. It is that saddest of all things, a thing doomed to continued existence, albeit it has no future. It is sometimes said that the worst use to which a railroad could put $1,000,000 is to buy a $1,000,000 worth of freight cars. For the object of every competent railroader is precisely to avoid such a purchase. He spends $1,000,000 on a new signal system or on new locomotives in order that cars move faster. Which means that fewer cars do the same work, which in turn means that he will not need to spend $1,000,000 on new freight cars. Operating progress comes from subtraction rather than from addition or multiplication of freight cars. Whereas $1,000,000 worth of superpower locomotives means that freight will move more cheaply and speedily than before, $1,000,000 worth of new freight cars does not cut a minute from operating schedules.

In short, the object of a railroad is to move. Locomotives move. Signals move. Better roadbeds move. Intelligence moves. Freight cars don't move; they just get moved, the dumb things.

The stolid passivity of the freight car is reflected in its manufacture. A. C. F., as we shall see, is now making a pleasure boat. A very natty thing it is, with personality plus, not to be confused with any other pleasure craft. You just know it's an A. C. F. But there's no such thing as an A. C. F. freight car, except for specialized use such as tank cars. If you were sitting with Mr. Woodin on *The Chief* as it clattered into Chicago over labyrinths of tracks, he could not say: "Look, there's our crack 1930 Super-fat Model." That is not because all freight cars are alike. Far from it. Even the common box car, most rudimentary form of car life, presents surprising diversity in manufacture. But the diversities did not spring from the imagination of A. C. F. For A. C. F. and the other builders are essentially custom tailors to the railroads, making up each order according to the specifications of the particular customer. This is not to say, of course, that A. C. F. does nothing to improve its product. On the contrary. It maintains an engineering staff, and a very able one. But each railroad also has its own car-designing staff, which means that each railroad has its own ideas about the kind of box car it wants. Like a good tailor, A. C. F. does not argue with its customers. It builds the cars strictly according to the particular railroad's specifications though this often means setting up the plant all over again in a different way for the next order. To the layman this appears an uneconomical way to build box cars, but it has persisted for nearly a century and shows no sign of changing. One thing keeps freight cars from running wild in design—the standard code of the Master Car Builders Association.

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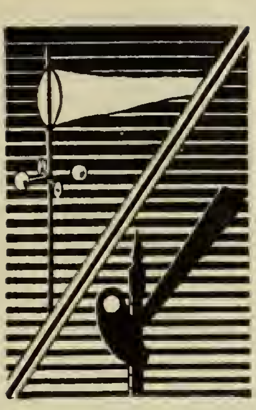
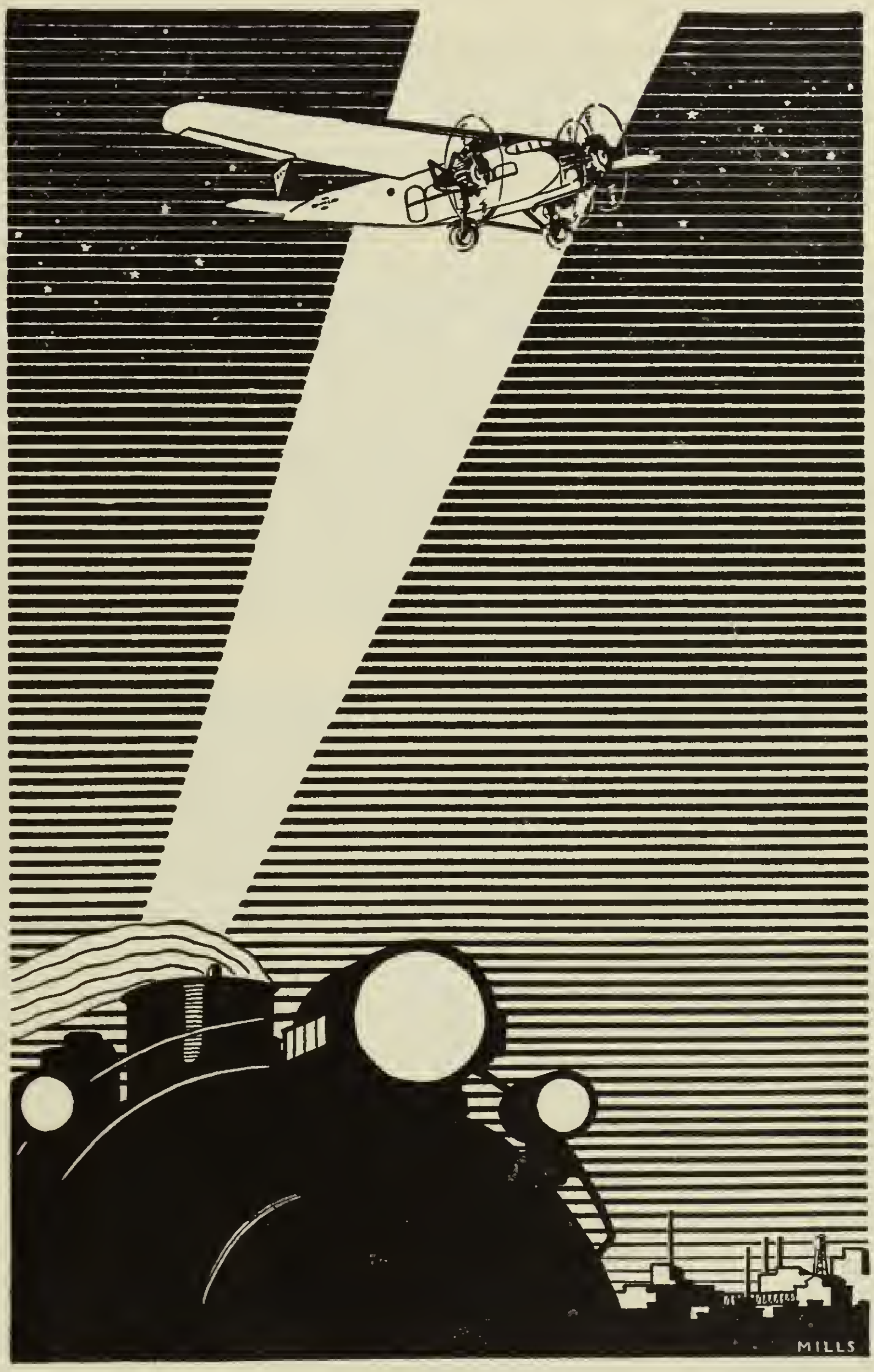
TO MANHATTAN'S GRAND CENTRAL STATION COME MANY PULLMANS, NO FREIGHT CARS

But before examining in detail the varieties of the freight car, let us look at its most prolific spawner, A. C. F. And we shall see that it is not the haggard and harried mother that might be supposed. Indeed, it is very rich, well-heeled, and big with promise. True, its net income has declined as aforementioned. But its dividends are handsomely maintained out of a $10,800,000 dividend reserve set up as the result of the enormous profits it derived during the War, when, in one year, it was required to make 31,000 cars. This reserve has now been depleted to $5,300,000. But the show is not over when that reserve is finished. A. C. F. will continue for many years to build thousands of cars. The possibility of railroads building all or most of their cars is still remote, partly because they cannot build them in busy times when they may want them most.

But the great new factor in A. C. F. is Diversification. Consider one potent fact: A. C. F. makes one-third of all the carburetors in the country. These are turned out by the Carter Carburetor Company of St. Louis, one of A. C. F.'s most profitable subsidiaries. They are sold to General Motors, Chrysler, and many another motor-car maker. Not a few are absorbed by another flourishing side line: trucks and buses. Brill, Hall-Scott, and Fageol, potent names in the bus and truck



Behind the man . . . at the throttle



A DAZZLING white beam pierces the black of night . . a subdued rumbling rises suddenly to roaring crescendo, then fades again as quickly. A train disappears into the darkness beyond.

Modern transportation presents a picture even more romantic than those of ox-cart and stage-coach days . . . a picture created on a canvas of vast facilities and resources . . . a picture imposed on a background so intricate that only close scrutiny can reveal the countless elements of which it is composed.

Behind the man at the throttle . . . serving the thundering iron horses of man's invention are giant service stations along industry's right of way . . . created by skilled organizations . . . one of them The Austin Company, international engineers and builders . . . working hand in hand with railroad engineering staffs . . . designing, constructing and equipping terminals, locomotive repair shops, roundhouses . . .

Close cooperation with those directly responsible for railroad building programs . . . long experience and extraordinary facilities that assure speedy completion of any project undertaken . . . suggestions often offered on how important savings can be made in design and construction . . . *These are probably the outstanding reasons why The Austin Company has often been employed by many of the great transportation companies.*

To those whose plans for the future demand the highest type of design and construction . . . whether it be to better provide for transportation, distribution or production . . . Austin offers a complete building service, perfected by years of experience, tested by the leaders of industry.

THE AUSTIN COMPANY

The* AUSTIN METHOD *of Undivided Responsibility

Design, construction and building equipment . . . separate responsibilities ordinarily . . . become one unified responsibility under The Austin Method. One nation-wide organization handles the complete project under one contract which specifically guarantees in advance, total cost, time of completion with bonus and penalty clause if desired; and high quality of materials and workmanship.

THE
AUSTIN
METHOD

ENGINEERS AND BUILDERS . . . . CLEVELAND field, are all three now merged into the initials A. C. F., and in this vigorous industry the company now occupies a position in the very top rank, close beside the industry's leader. Justifiably, A. C. F. boasts that its buses are exceedingly well-built; two of them have run 150,000 miles each in Yosemite Park without overhauling. A. C. F. takes equal pride in the handsome express cruisers which slip into the water from its plant at Wilmington, Delaware. That A. C. F. earnings for 1929 are up considerably may be traced justly to the fact that 1929 was a boom year for the car-builders. But Diversification can also claim a big share of the earnings increase.

A SET OF DRIVING WHEELS BEFORE THEY ROLL OUT OF EDDYSTONE UNDER A LOCOMOTIVE

BURLINGAM PUBLIC

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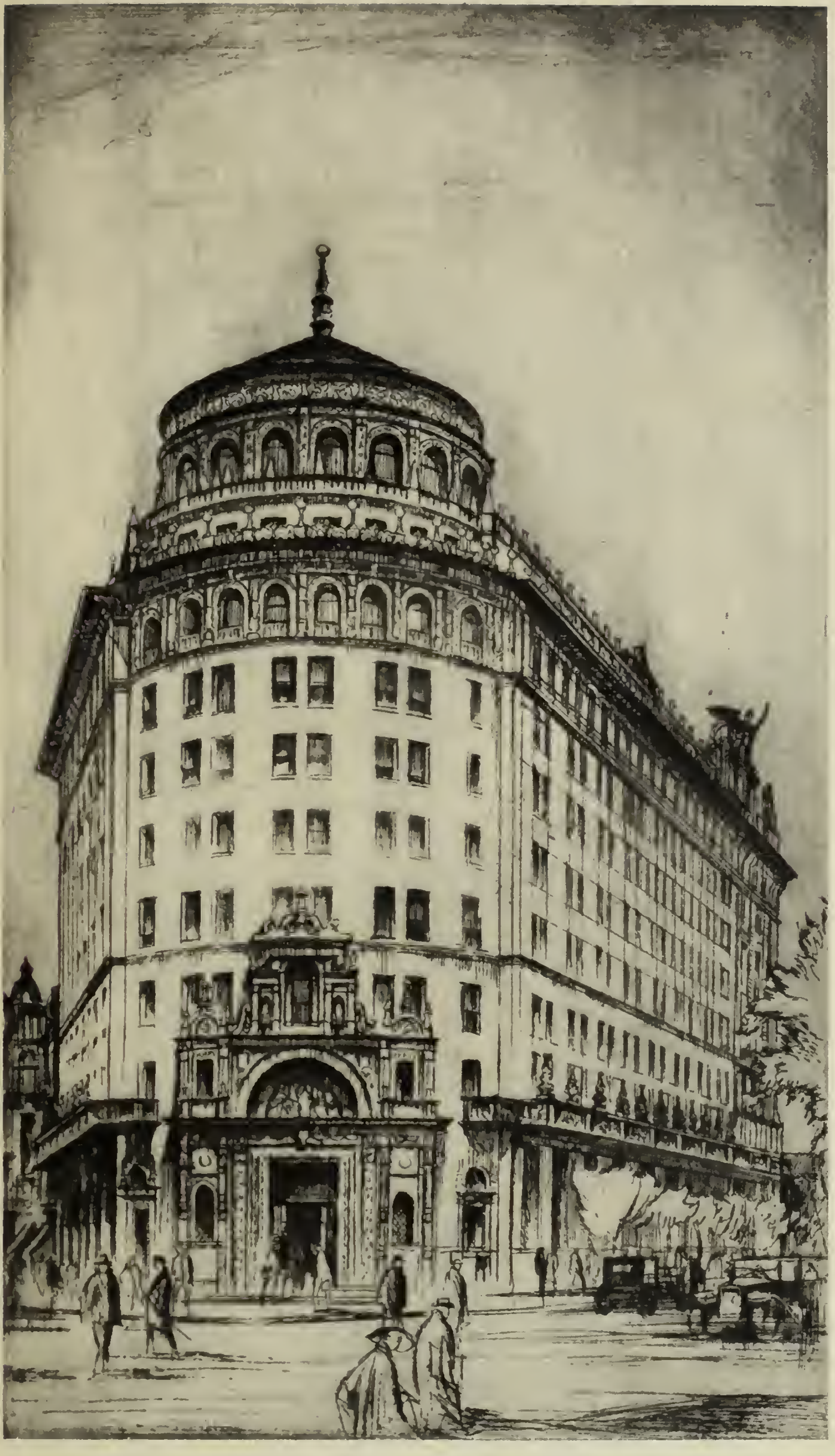
It can be said, without exaggeration, that A. C. F. is the largest and most powerful maker of railroad equipment in the world. Sixteen plants, some of them huge, none of them exactly small, are scattered up and down the land east of the Mississippi from Buffalo to Memphis, from Wilmington to St. Louis. If one wanted a point from which to survey in his mind's eye the great, gangling body of industry spread over half the country that is A. C. F., he could choose no better vantage point than a certain high plateau on the banks of the Susquehanna River. On this plateau, about twenty-five miles downstream from Wilkes-Barre, is the little town of Berwick, Pennsylvania. Berwick is a pleasant place. Its streets are wide and tree-shaded. Its houses, modest little boxes with porches in front, have plenty of grass and shrubbery around them. On the outskirts of town are 145 acres inclosed by a high wire fence, and within this fence is the largest of the fourteen A. C. F. freight car plants. It can turn out, among other things, fifty freight cars a day. A freight car plant is little more than an aggregation of smaller plants. An automobile workman would be at home in the assembly line at Berwick, an iron-puddler could practice his craft in the foundry, a carpenter could build floors and walls all day in the wooden car department, and a steel worker would find nothing new in the rolling mill. Nor would a house painter need to change his technique much in painting the cars, though he might be surprised at the nineteen coats of paint and five coats of varnish some passenger coaches receive. All the workmen at Berwick wear safety glasses, which gives them a curiously scholarly appearance. The plant's safety record is notable: there has not been a fatal accident since 1923. Some fifteen miles of railroad track tie together the various shops and connect them with the Lackawanna at one end of the plant and with the Pennsylvania at the other.

High on a hill overlooking the plant at Berwick are the homes of Clemuel Ricketts Woodin and of his son, William Hartmann Woodin, president American Car and Foundry as well as chairman of American Locomotive. The Woodins are, and have long been, the leading citizens of Berwick. In the plant which his home overlooks, President Woodin got his first job, at nineteen cents a day. In those days the plant was known as Jackson & Woodin, and C. R. Woodin was a partner as his father had been before him. There young Woodin cast his first perfect wheel in the wheel foundry, for which his father gave him a prize of $500. Casting perfect wheels did not appeal to the young Woodin as strongly as more cultural activities. Therefore he went off to Europe where he studied music in Germany and became a special correspondent in the Near East for the London *Times* and the New York *Herald*. When he came back to Berwick, however, he settled down to running the family plant, which was one of the companies that united in 1899 to form A. C. F. In 1916 he became president of the company.

Those who persist in believing that business and esthetic talents are mutually exclusive must be puzzled by Mr. Woodin. On the one hand they see him running two vast industrial enterprises and sitting on the boards of a dozen others. And on the other, they see him composing music (eight of his orchestral compositions were played at a private theatre party last February) and going deeply enough into numismatics to write a learned tome on *The United States Pattern: Trial and Experimental Features*.



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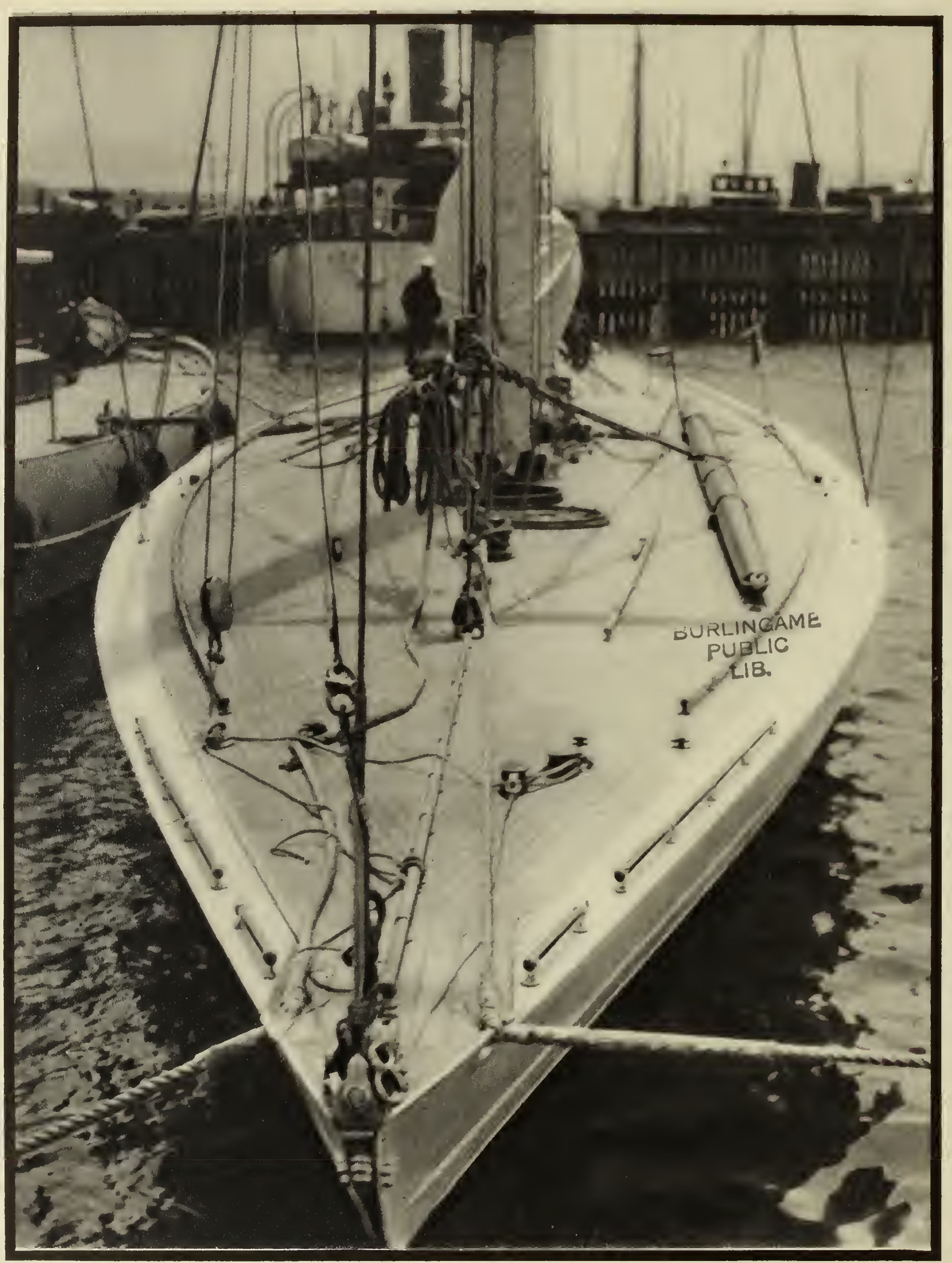

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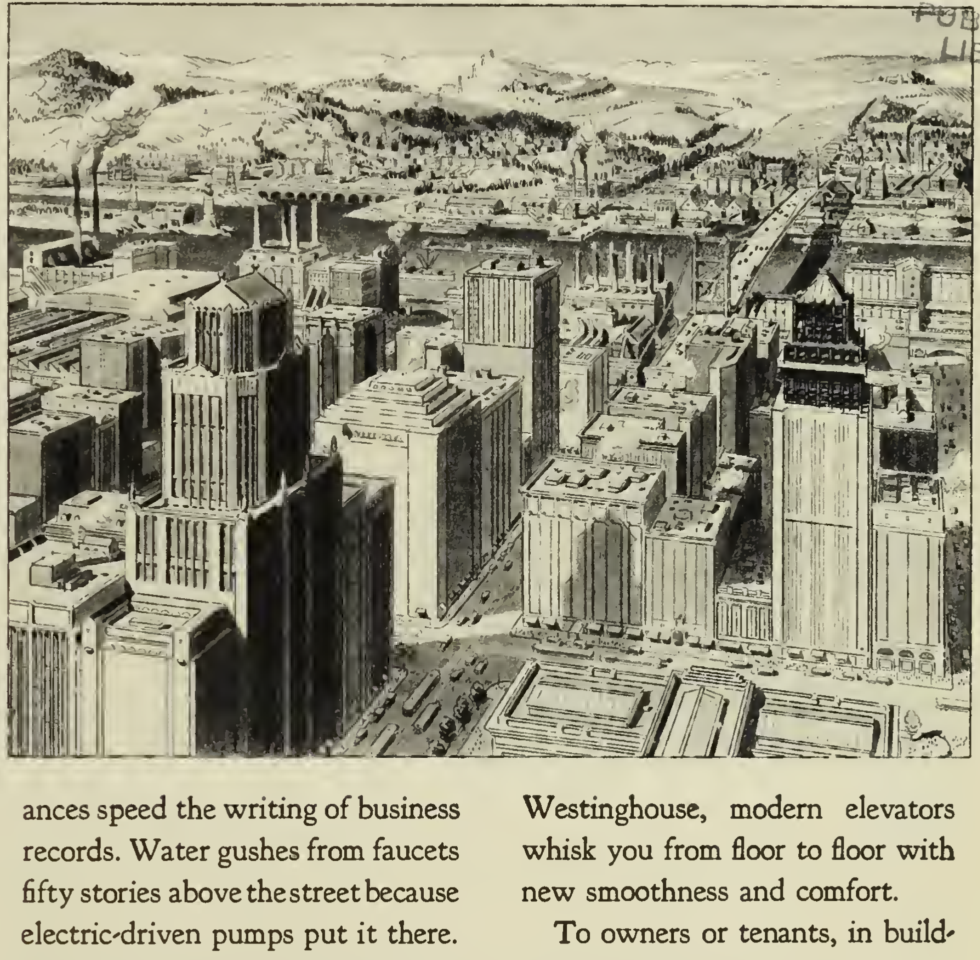

THE building that made eyes brighten in admiration less than two score years ago wouldn't pass muster at all today. The unwritten code of improvements put into building practice by electricity gives those who dwell in the modern home, apartment, or hotel, comforts and conveniences unknown in the last generation. Thanks to electricity, the worker in office or industrial buildings has new safeguards to health, new ways to save time and reduce the strain of toil.

Electric motors drive fans and suction ventilators circulating fresh air to every corner. Electrically operated office appliances speed the writing of business records. Water gushes from faucets fifty stories above the street because electric-driven pumps put it there. On dark nights and sullen days the flick of a switch floods rooms with cheerful light. Because of electric automatic control developed by Westinghouse, modern elevators whisk you from floor to floor with new smoothness and comfort.

To owners or tenants, in buildings of every size or type today, Westinghouse engineering and Westinghouse electrical equipment help to provide more comfort and satisfaction for the purchase price or the rental fee. Westinghouse service is complete.

Tune in the Westinghouse Salute over WJZ and the coast-to-coast network, every Tuesday evening

Westinghouse

Electric Light & Power: 1920-1930

Of 438 papers, written in 1925, reviewing the decade's first half and forecasting the second half, the most brilliant effort, winning a $10,000 prize, is here presented.

In 1925, Bonbright & Company, Incorporated, offered and awarded prizes totaling $10,000 for the best contemporary reviews and forecasts of the electric light and power industry, to be written in the form of articles summarizing the progress in the decade 1920-1930 and dated as of January 1, 1930. The board of directors of The American Superpower Corporation judged the competition.

Simultaneously, the board voted to supplement the $10,000 Bonbright prizes with another prize of $10,000 to be awarded to that contestant whose prophecies, reviewed again in 1930, should have come nearest to the facts. At the N. E. L. A. convention in San Francisco, this June, award was made to the paper submitted by Mr. Reuben B. Sleight. As engineer for the Minnesota Tax Commission, Mr. Sleight had prepared a paper which won a fourth prize ($250) in the Bonbright competition of 1925. Later he went to Washington as an aide to Secretary Hoover in the Department of Commerce. He was killed in an accident several years ago. His estate will receive the prize money.

"*His paper,*" *the board declared,* "*is worthy of an enthusiastic tribute . . . The author ventured a considerable number of statistical forecasts that now exhibit remarkably small deviations from the actual data . . . Other papers contained isolated studies of brilliant prophecy . . . Mr. Sleight excelled in general treatment . . .*"

On another page of this issue (in Fortune Supplement) FORTUNE prints a highly important series of figures made public by the board of The American Superpower Corporation at the N. E. L. A. convention. As Mr. Sleight's paper reviewed 1920-25 and forecast 1925-30, so the board secured from companies representing, in kilowatt-hours sold, about 30 per cent of the entire electric light and power industry reviews of the 1925-30 period and estimates of their performances over the next three years.

FORTUNE here presents Mr. Sleight's essay:

WHAT unit of measurement shall be applied to the 1920-30 electric light and power development? Kilowatt hours, miles of line, dollars, number of employees, homes lighted—is any one of them alone suitable? Or can we get a proper conception from a consideration of individual happiness, standard of living, national well-being, and America's security? Perhaps a combination of the tangible and intangible will be best. The decade presents a series of records for all of those things that can be reduced to statistics—plants built, use of power, financial operations, the entire extension of the electric utility. Percentages obtained from our population increase of 14,000,000 must be multiplied by from ten to fifteen to equal the changes in the power and light industry.

The vast number of persons enjoying its benefits indicates the far reaching influence of electricity upon our lives. Some 75,000,000 live in electrically equipped homes; 7,000,000 to 8,000,000 engage in occupations dependent upon central stations for source of power; perhaps 4,000,000 are owners of stocks and bonds of electric light and power companies. These figures are several hundred per cent above those of 1920.

Electricity, a servant doing the work of tens of millions of men, extracting our raw materials, operating our factories, facilitating our transportation and communication, making our highways safer, our homes more comfortable, and our country more prosperous and secure, can be the subject for volumes. Its development has had its acts of heroism, its romances, and its sacrifices. These will continue. But the vision, the imagination, and the every-day toil of the engineers, the financiers, the administrators, together with efficient organizations and a growing understanding by the public, have brought the electric power and light industry to its high position of today and furnished us with power at a lower cost than ever before. The 1920-30 accomplishments of these individuals and organizations are the ones that are to be reviewed here. The romances must be left to the poet and novelist.

The discussion of the decade's development has been divided into sections. The order of their presentation is not meant to emphasize the importance of any group of activities. Each is essential to the success of the others.

Engineering

A catalogue only of electric light and power engineering accomplishments of the past decade or any other of the last five would fill many pages. But few things can be mentioned. They will be discussed under five headings.

The steam central station

Increased efficiency in utilization of the potential energy of fuel is the outstanding feature in steam station development. In 1920 very few plants could generate, under regular operating conditions, a kilowatt hour of energy with less than two pounds of the ordinary grade of steam coal. By 1925 there were new stations that had an average operating figure of less than one and one-half pounds per kilowatt hour. Now, in the latest plants, the production of a kilowatt hour of electrical energy with less than a pound and a quarter of the average grade of coal is common.

[*Continued on page 93*]

Table I—The consumption of coal, oil and natural gas in the production of electrical energy in the United States. All central stations, electric railway plants, and certain other plants that contribute to the public supply are included. The following average heat values were used in computing: Coal, 11,000 B.t.u. per lb.; oil, 18,700 B.t.u. per lb.; natural gas, 880 B.t.u. per cu. ft. Data for columns 2, 4, 6 and 9 for 1920-24 from U. S. G. S. reports.

THE ENTIRE CONTINENTAL UNITED STATES

Year	Coal consumed		Oil consumed		Gas consumed		Total B.t.u. in fuel consumed	K.w.h. total production by fuel	B.t.u. consumed per kilowatt hour produced
	Tons	B.t.u.	Barrels	B.t.u.	M. cubic feet	B.t.u.			
1	2	3	4	5	6	7	8	9	10
	Millions	Trillions	Millions	Trillions	Millions	Trillions	Trillions	Billions	Thousands
1920	37.1	815	13.1	82	24.7	22	919	27.2	33.8
1921	31.6	695	12.0	75	23.7	21	791	26.0	30.4
1922	34.2	752	13.2	82	27.2	24	858	30.4	28.2
1923	38.9	855	14.7	92	31.4	28	975	36.3	26.9
1924	37.4	823	16.6	103	48.4	42	968	38.7	25.0
1929	44.0	968	17.0	106	51.0	45	1.119	66.0	17.0

Heat efficiency improved from 10.1 per cent in 1920 to 13.7 per cent in 1924 and to 20 per cent in 1929.
Coal equivalent per kilowatt hour produced: 1920, 3.07 lbs.; 1924, 2.27 lbs., and 1929, 1.55 lbs.

ROYAL RM MASTER

built by the world's largest producer of rubber

RM

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. . . beautiful beyond all tires of the day

There are degrees of quality in all things, and nowhere more truly than in super tires, as witness the U. S. Royal Master. It is priced a trifle higher, and built a great deal better. It is beautiful beyond all tires of the day. It confers the priceless advantage of complete freedom from tire troubles, serving flawlessly as long as you drive your car. To meet varying tastes, we fashion Royal Masters with cream-white side walls or in uniform black—each style surpassingly beautiful.

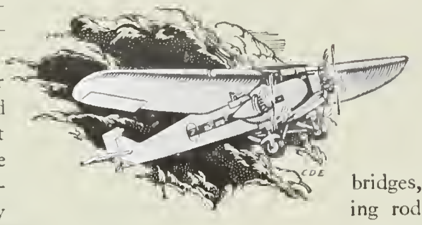
UNITED STATES US *RUBBER COMPANY*

Harder Jobs Wanted

By the "Hard-Boiled" Aluminum Alloys

WHEN Charles Martin Hall worked out the process for extracting aluminum from its ore by electricity, in the woodshed in the backyard of his home in Oberlin, Ohio, on the morning of February 23, 1886, he irtually presented a new metal to the world. For prior to hat time aluminum had been almost as costly as silver, and ts use as a commercial metal was out of the question.

But Hall did not finish the job of making aluminum the seful metal it is today, any more than Christopher Columbus inished "discovering America" when he landed his little arty on the island of San Salvador in 1492. Each of these xplorers had merely unocked a new door opening upon the future. Other men were to enter he aluminum door and nake discoveries that Hall could not even have pictured in his imaginaion at that time, any nore than Columbus ould have pictured the reat expanse of the American continent, the broad Missisippi, the majestic Rockies, or the view that greeted the eyes f Balboa when first he glimpsed the waters of the Pacific.



Discoverers, Hall and Columbus were, but the great useulness of their discoveries has been developed by men who ame after them.

In Hall's case, this development work is being pursued oday more aggressively than ever. Scarcely a month passes hat some new discovery is not made in the great field of luminum which he opened up just 44 years ago.

The aluminum that Hall produced made wonderfully ine cooking utensils, and wire for electric cables and, later n, foil for wrapping food products and confectionery, and ollapsible tubes for tooth pastes, cold creams and other oilette preparations, to mention but a few of its hundreds f services.

But when it came to carrying a heavy load or standing evere punishment, Hall's aluminum had its limitations. t lacked strength.

That seemed most unfortunate. Here was a metal only one-third as heavy as the older metals, a metal that would conduct heat five times as fast as iron or steel, a bright metal that would not rust or tarnish from exposure. In short, here was a metal engineers and manufacturers had been needing for years. But it was not strong enough for the heavy duty required in nany fields of industry and transportation.

However, all that was to be changed. Other "explorers" were following hard on Hall's heels—research scientists whose point of view is that when a certain quality is necessary, some way can be found to develop it.

They took aluminum into their metallurgical laboratories and began to experiment. At first there was much mystery about it all. But today, we know that these scientists were merely applying to aluminum the age-old science of "alloying"—of melting a metal and while it is in a molten state adding small experimental quantities of other metals, until a formula is found that gives the qualities desired, as nearly as it is possible to secure them.

Someone has aptly described an "alloy" as a marriage of two or more well-disposed metals. What happens in this "wedding" is that by taking a large amount of a metal with certain distinctive properties (in the case of aluminum, lightness and high heat conductivity and resistance to corrosion) and adding to it very small quantities of other metals with certain other characteristics, the metallurgist gets a third metal, surprisingly different in its properties from the metals he has combined.

That is what the research scientists did with aluminum. They added minute quantities (less than five per cent) of certain other metals, and in the end they produced several new forms of aluminum—tough, hard, strong—the equal of structural steel, in strength, but with only about one-third the weight.

Aluminum Given Harder Jobs

Then for the first time aluminum was available to engineers for structural use in airplanes, railroad and trolley cars, automobiles, and for structural shapes for building purposes and bridges, oil tanks, machine parts, locomotive connecting rods, and other services where only what someone has picturesquely described as "a hard-boiled metal" could be expected to stand the gaff.

And yet it was not quite ready—not for the heaviest duty. Just as steel has to be tempered to give it its greatest strength, so it was found that these strong aluminum alloys had to be heat-treated to give them the desired toughness.

Before the World War not a single strong aluminum alloy was being made in America, but in 1919 the Aluminum Company of America established Research Laboratories. Since then its scientists and engineers have developed alloys that have amazingly strengthened aluminum for its important work in the world, and without materially changing the characteristic lightness and brightness of the parent metal which Hall made commercially practicable.

Expressed in terms of industrial use and transportation, equal strength is secured with half (or less) of the weight of materials formerly used, which means power saved . . . dead weight decreased . . . pay load increased . . . quicker acceleration . . . quicker deceleration . . . long life . . . low maintenance . . . a step toward better dividends.

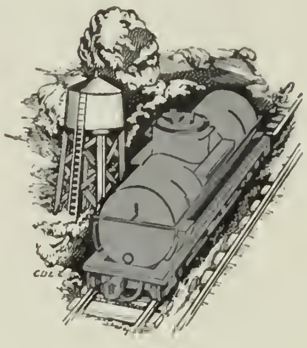
These strong aluminum alloys can be cast, rolled, extruded, machined, drop-forged, or worked in almost any desired way. They can be welded or riveted. And because they are so light in weight, they can be lifted and handled more easily than the older metals in the fabrication and finishing processes.

All this explains why strong aluminum alloys are today used so widely for automobile pistons — more than fifty million pistons trademarked Lynite have been produced from a special grade of aluminum alloy in the past ten years — and to paraphrase the popular saying, "Fifty million pistons can't be wrong!"

It explains why railroads have begun to turn to strong aluminum alloys for bodies and roofs for their passenger coaches, and driving rods for their locomotives.

General Atterbury Makes a Prophecy

In an article in a recent issue of "The American Magazine," General W. W. Atterbury, President of the Pennsylvania Railroad, is quoted as predicting "Aluminum is to compete with steel in car and locomotive building. We shall ride in railroad coaches built like automobile bodies—with aluminum-alloy bodies and steel chassis — behind engines of aluminum and steel. This lighter metal which has the strength of soft steel, will add a third to the carrying capacity of trains, and introduce a new giant into the mechanical construction field."



This would not be possible without these hard-boiled aluminum alloys. Nor would our progress in aviation. For airplane manufacturers employ special sheet aluminum alloys for wing coverings, and drop-forged aluminum alloy propellers, and cast aluminum strong alloy radial engine crank cases — to mention only the most obvious uses in airplane engineering.

In the field of electrical appliances, the strong aluminum alloys have made possible the light, efficient and economical machines we use in our homes—electric washing machines, vacuum cleaners, vibrators, for example. Nearly all makes of these appliances employ aluminum strong-alloy cast or forged parts.

In business offices, railroad dining cars, hospitals, and hotels, aluminum chairs made from these strong alloys are rapidly replacing wood chairs.

In the machine-tool industry these "hard-boiled" aluminum alloys are proving very useful and holding down jobs in which only a strong, tough metal will serve.

The outboard motors used on small pleasure boats are made of strong aluminum alloy castings and drop-forgings. They make possible the fun of outboard motoring.

On our city streets, store fronts are beginning to be made from mouldings and shapes of these strong alloys. In designing office buildings, railway stations, churches and public buildings, architects are employing aluminum alloys for spandrels and decorative cornices and trimmings.

Many Minds at Work

Charles Martin Hall started it all. But the aluminum that is used in America today—and American aluminum is the highest standard in the world—is the result of years of intensive research and painstaking experiment by the research and development engineers of the Aluminum Company of America. Many minds have been at work to increase the usefulness of this remarkable metal.

In order to establish the identity of its aluminum and the strong alloys of this aluminum, this Company has created a trade name. This name is made up of three syllables, AL-CO-A, standing for the beginning letters of the principal words of its name: AL uminum CO mpany of A merica.

Though ALCOA ALUMINUM is the finest made today, the period of exploration in the field of aluminum is only begun. Just as the steel industry is entering a new age of alloys, so is the Aluminum Company of America facing forward and working ten, fifteen, twenty-five years in the future, in order that when the world needs a light metal with characteristics which as yet we cannot even imagine, it will be ready for service in still harder jobs. In fact, harder jobs are wanted today for these "hard-boiled" aluminum alloys! ALUMINUM COMPANY *of* AMERICA; 2402 Oliver Building, PITTSBURGH, PA.

Table I presents statistics of fuel consumption of the country as a whole. In terms of quantity of fuel the improved efficiency from 1920 to 1925 was sufficient to save the equivalent of 15,000,000 tons of coal in the year 1924. The 1929 output has been secured with the equivalent of 50,000,000 tons less of coal than would have been necessary under 1920 conditions, or a saving greater than the total amount of coal consumed during 1929 by plants generating electricity for public use.

Among the factors contributing to the improved efficiency are more thorough combustion of coal and the conservation of heat by improved furnaces, larger boiler and turbine units, steam and air preheating, by bleeding and increased steam pressures.

In 1920 the 20,000 KW machine was large; there were but few of them. By 1925 several 50,000 KW units were being built and installed. The 100,000 KW steam-driven electric generating machine is now in successful use. Three hundred pound pressures were high in 1920. A few large plants of 1924 and 1925 design used 550 pounds, and one was put into use with a 1,200 pound boiler and 1,000 pounds at the turbine. At present in new designs there is a general trend toward the highest pressures of 1925.

The use of powdered coal as steam-making fuel has extended. It is particularly good in the stand-by plant as banking of fires is eliminated and a minimum of attendance is required.

While practically all of the increased efficiency has been obtained on the heat side of the generating plant (the greatest opportunity for improvement existed there and still does), much has been done in generator design and in central station control.

It may be that the over-all size of the plant has about reached its limit. It has increased from 100,000 KVA in 1920, to 300,000 KVA in 1925, and 750,000 KVA now. It appears that there are only three or four places in the country where this large size can be called advantageous or justified.

Water power engineering

Notable items of hydro central station development include the manufacture and successful operation of the 75,000 horsepower turbine in a single unit, the development of various devices in connection with the draft tube and tail race to increase head, and the building of remotely controlled or automatic power plants.

Efficiency in the turbine has increased but little. In that remaining margin there was not much upon which to work. The vertical reaction machine has been selected for most of the low and medium head plants, with the impulse wheel generally installed for the high head of developments of the mountain and Pacific states. However, for a few high head plants the reaction turbine has been designed and operated satisfactorily. The propeller type runner is a development of the decade that gives high efficiencies and good operation. Adoption of higher specific speeds of runners has resulted in a reduction of size and cost of generating units.

Methods of hydro plant testing have improved, particularly water measurement. The National Hydraulic Laboratory has taken an important part in hydraulic research. Studies by individuals, by companies, and by the government have added much to our available data on water resources and development costs.

The quantities of earth and rock moved and concrete placed in the past ten years have been enormous. However, to fairly describe the civil engineering accomplishments, each project would have to be handled as the special problem that it is.

Transmission, substations, and distribution

Higher voltages, longer lines, duplicate heavy-duty circuits, better control, and slightly lower losses mark the transmission developments. Maximum voltage in 1920 was 150,000; 1923 saw the first higher voltage in use, 220,000. The maximum is still 220,000. Higher voltages can be controlled and their equipment built, but have not appeared to be economically justified as yet. With the scattered large-sized steam plants in industrial districts, 125 to 150 miles is about the maximum distance for transmitting large quantities of power over single lines. So in few cases have voltages over 150,000 been thought justified in the eastern half of the country.

The high voltage line completely encircling large cities has been extended in use. Really an extension of the power house high tension bus, it probably, by having numerous substations, has done as much as any one thing to insure a continuity service in the city.

High tension underground has been delayed longer than desirable because of the lack of a satisfactory high voltage cable. In 1920 there was very little underground above 15,000 volts. An 110,000 volt cable is now available, but the cost has prohibited its use except where very large concentrated city loads are such that they can no longer be handled by the admittedly undesirable nearby plant. Automatic substations, while not new to the decade, have increased in popularity.

Distribution systems of hundreds of small cities and villages have been rebuilt with heavier conductors as large companies have acquired the properties either from the municipality or in consolidation of companies. Whole suburbs have been laid out for and supplied with underground electric service.

Illumination and electrical appliances

Illumination presents more contact points between the industry and the public than does any other use. A gradual change in the lamp itself, better direction and reflection of the light, our homes wired in a manner to make them more truly electrical, not only in lighting and decorative effects, but also for the use of appliances—all these are notable accomplishments. A really effective placing of the street light and the production of

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Table II—Central Station Capacity and Principal Items of Load in the United States by Sections—1920-30

Section	Central Stations Capacity	Domestic & Commercial Lighting Customers	Power at Mines & in Mfg. Plants		Consumption of energy generated by Central Stations			
			Total	Elec. Motors operated by power purchased from Cent. Sta.	Lighting	Power in Industry*	Electric Rys. & Electrified Steam Roads	Total
	Jan. 1, 1920	Jan. 1, 1920	1919 Census		1920			
	Thousand KVA	Thousands	Thousands H P		Millions of Kilowatt hours			
New England	1446	686	3860	1163	411	1300	310	2021
Middle Atlantic	3535	1282	10657	2847	1150	4450	1760	7360
South Atlantic	1565	530	3644	1153	345	2720	470	3535
East North Central	3570	1855	8885	2893	926	4260	1600	6786
West North Central	1286	963	1911	671	484	1275	285	2044
East South Central	547	354	1853	428	160	645	235	1040
West South Central	482	303	1784	259	135	505	85	725
Mountain	645	358	1402	583	230	1210	183	1623
Pacific	1533	940	2115	953	740	2560	710	4010
Total U. S.	14609	7271	36211	10950	4581	18925	5638	29144
	Jan. 1, 1930	Jan. 1, 1930	Jan. 1, 1930		1929			
New England	3700	2090	4700	2250	1670	2830	560	5060
Middle Atlantic	8100	5500	13000	5800	6880	10060	2500	19440
South Atlantic	2600	1430	5500	2850	1290	7250	675	9215
East North Central	10500	5500	13500	7600	4620	12300	2770	19690
West North Central	3900	2860	2250	1200	2200	2560	315	5075
East South Central	1600	880	2550	1050	750	1860	360	2970
West South Central	1400	1100	2500	800	660	1850	135	2645
Mountain	2060	660	1750	1050	580	2400	225	3205
Pacific	3440	2200	3250	2150	2310	6250	1060	9620
Total U. S.	37300	22220	49000	24750	20960	47360	8600	76920

* Includes the motor load represented by Motors at Mines and Manufacturing Plants and in addition the Chemical and Industrial Heating Loads.

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Brooks Brothers,
CLOTHING,
Gentlemen's Furnishing Goods,
MADISON AVENUE COR. FORTY-FOURTH STREET
NEW YORK

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Outfits for Midsummer Sport

Send for "A Wardrobe for
LAWN TENNIS & YACHTING"

© BROOKS BROTHERS

BRANCH STORES
BOSTON
NEWBURY CORNER OF BERKELEY STREET
NEWPORT PALM BEACH

proper devices for highway lighting are new to the ten-year period.

The electrically operated refrigerating plant for the home has been made practical in the decade. Range regulation has been simplified. The electric laundry, the electric kitchen, the electrically heated bathroom, the electrically cooled bedroom, the electrically operated sewing room, electrically cleaned floors are not, of course, developments of the period, but their improvement to ultimately make possible the 100 per cent electric home has progressed far.

Industry

Scientific developments of the 1920-30 period in the electrification of industry that will have great effect upon central station production are in the electrochemical and electrometallurgical fields.

For several years before 1920 electric furnaces were available for some special heating processes. Furnaces for steel foundry use, and some in malleable shops, were put into use in 1919 and 1920 with quite general success. Very little extension was needed up to 1925, but since many new installations with improvements have been made, bringing to the central station a load desirable as to both power factor and load factor.

In the field of electrochemistry, as apart from the operation of electric furnaces, zinc and aluminum production are among the leaders. Magnesium, electrically produced in commercial quantities, is a development of the decade and in the last five years has assumed importance. The production of fertilizer in concentrated form is just beginning and has a potential demand for large quantities of power as the process becomes more nearly perfected.

The electrical engineer has succeeded in producing a satisfactory high power factor motor in the small sizes. The electrification of excavating equipment, the replacement of steam by electric hoists in mines, the complete electrification of many coal mines, cutters, loaders, and all haulage motor operated, have taken place rapidly.

Even though the industrial load is nearly 65 per cent of the total central station load, except in this general way, it is not possible to describe here the engineer's part in the electrification that has taken place. It has been a process of motorization and application of electricity in nearly every branch of extractive, transformative, and distributive industrial endeavor.

Central station capacity and load

At the beginning of the 1920-30 decade there were in America central stations having a total capacity of 14,609,000KVA. By 1925, additions and new plants made the figure 25,800,000. At the end of ten years the *rated capacity of all generators* of central electric light and power stations in the United States *is* 37,300,000 *KVA*. The 1920 generating capacity has been multiplied by over two and one-half. Or if based upon population, there has been an increase from 0.138KVA to 0.316KVA for every man, woman, and child in continental United States. From where has the demand that required such an enormously increased capacity come?

Two principal sources are responsible: industry as represented by manufactures and mines, and classification, lighting, comprising residential, commercial, and municipal. Although the greatest relative change has been in the lighting load, industry now, as in 1920, has much the greater requirement. The third demand is transportation. Its change has been relatively small.

At our manufacturing plants and mines as reported by the 1919 census, there was installed power-supplying equipment of over 36,000,000 horsepower capacity (manufactures 29,500,000; mines 6,700,000). Thirty per cent was in motors operated by energy purchased from central stations. Now with 49,000,000 horsepower in manufacturing plants and mines, slightly over 50 per cent depends upon central stations for its power. This makes an increase in motor capacity of 13,800,000 horsepower. The energy consumed by these motors and by industrial heating and chemical processes not represented by the horsepower figures was 28,375,000,000 KWH more in 1929 than in 1920. Table II presents the statistics in some detail by sections of the country.

The lighting load has shown a very much higher proportional increase. *The number of lighting customers* was 7,271,000 January 1, 1920. Now there are 22,220,000, and the average consumption of electrical energy per customer is nearly 50 per cent higher than ten years ago. Thus the total energy increase for this class has been from 4,581,000,000 in 1920 to 20,960,000,000 KWH in 1929. It alone used as much last year as the total production for all purposes in 1915.

In 1920 the central stations had around 5,500,000 residential customers. It was estimated that 25 per cent of the homes were then adequately supplied with appliances. But by 1925 when an additional 5,500,000 residences had been connected to central stations, competent authority estimated that only 18 per cent had a full equipment of the common appliances. Intensive educational campaigns were begun about the middle of the decade. Research work was placed under way to secure more data relative to the value of appliances to both the serving utility and the customer. Electric home demon-

"Advertising, as a Tool of Distribution, has gained in Accuracy . . ."

says FRED W. SHIBLEY
Vice-President of the Bankers Trust Company
and author of "The New Way to Net Profits"

FRED W. SHIBLEY

"It can be made a most reliable sales medium, when placed wisely after an exhaustive market study."

IN this brief statement Mr. Shibley at once describes the function of advertising and indicates the method which is essential to its successful use.

Market study is taking a place as one of the most important branches of practical economics. In order that advertising may be properly planned, it is necessary to know in detail not only the wants of prospective consumers, but also their psychology and their whereabouts, so that their minds and their markets may be reached at the lowest cost.

Directed by the facts which this original study reveals, selling effort now gives its best return when made an integral part of productive activity. Today the aim of far-sighted business men is to fuse production and distribution into a single coördinated process, governed throughout by facts and by accurate planning.

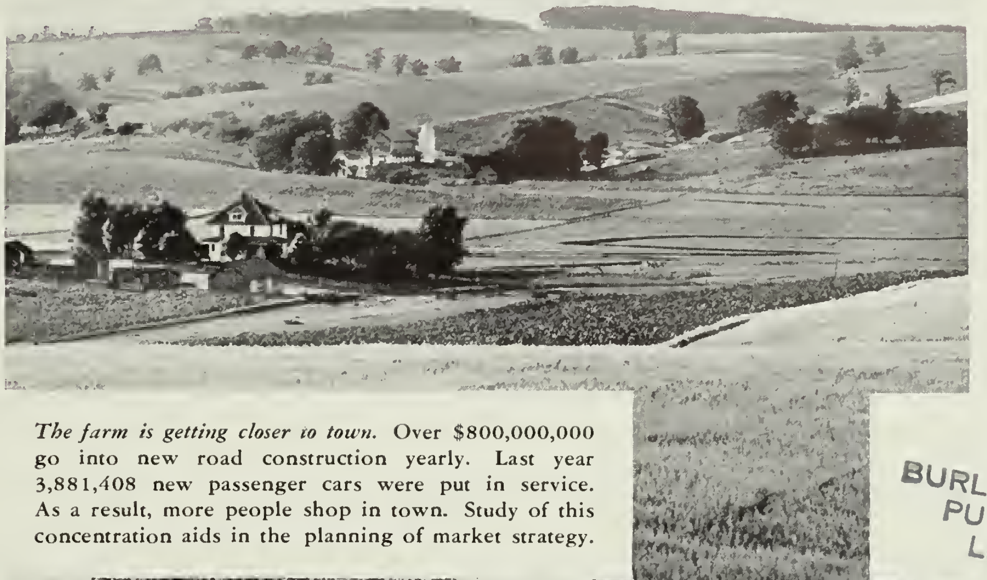
In forwarding this important work, the J. Walter Thompson Company has successfully served many of the country's leading enterprises. Extensive research into the problems of distribution has enabled this Company to formulate market strategy which has been instrumental in economically promoting the products of its clients in both domestic and foreign markets.

Two folders, entitled *"Selling at Home"* and *"Selling Abroad,"* have been prepared to show the scope of the service of the J. Walter Thompson Company.

Either or both of these folders will be sent to executives interested. Write to the New York Office and copies will be forwarded promptly.

J. WALTER THOMPSON COMPANY

New York • *Graybar Building* • *420 Lexington Avenue*
Chicago, Boston, Cincinnati, San Francisco, Los Angeles • Montreal, Canada • London, Paris, Madrid, Berlin, Stockholm, Copenhagen, Antwerp, Warsaw • Alexandria, Egypt; Port Elizabeth, South Africa • Buenos Aires, Argentina; Sao Paulo, Brazil • Bombay, India • Sydney, Melbourne, Australia • Batavia, Java



The farm is getting closer to town. Over $800,000,000 go into new road construction yearly. Last year 3,881,408 new passenger cars were put in service. As a result, more people shop in town. Study of this concentration aids in the planning of market strategy.

BURLINGAME
PUBLIC
LIB.

Roads are one of the chief factors in deciding shopping areas. The principle of grouping tributary purchasers about market centers for the purpose of finding and classifying true markets has been followed for several years by the J. Walter Thompson Company.

LOOSE GUMS LOSE TEETH

Prevent receding gums by Tek-sercising . . .

There is little warning. Unless you keep gums firm and tight against the teeth you risk "under-the-gums" decay. Then you *are* in trouble. Make Tek the protector of your teeth and of your gums, too.

◆ ◆ ◆

Tek-*sercise.* Tek's extra width makes gum massage automatic with each cleaning stroke. This dual action keeps gums firm and healthy. It is called Tek-*sercise.*

◆ ◆ ◆

Scientific. The number, trim and spacing of Tek bristle tufts were determined scientifically to give the greatest efficiency in cleaning every curve of your dental arch.

◆ ◆ ◆

Bristles. The Johnson & Johnson laboratory searched world markets to obtain for Tek its snow white bristles whose resiliency withstands vigorous use and daily dipping in water.

◆ ◆ ◆

Dental Floss. Use floss to clean the spaces between your teeth. There's a supply in the handle of one Tek model. Tek with flat handle 50c. Tek with floss in handle 75c. Tek Jr. 35c. Handles in beautiful pastel colors.

The extra width of Tek's brush-head makes gum massage automatic. Your protection against Receding Gums.

Tek
the modern
TOOTH BRUSH

Johnson & Johnson, New Brunswick, N. J., world's largest makers of dental and surgical dressings

strations were staged. Service surveys were made by the power and light utilities. The results are mutually satisfying to the company and consumer. Now with nearly 19,000,000 homes with electric service, over 30 per cent are well equipped with electric appliances in addition to lights.

The electric railway load is larger than in 1920, but the increase has been relatively slight. Some sections show practically no change. Others, in which are located large centers of population, have greater demands about in proportion to the population growth. In addition, and shown by Table II with the electric railway consumption, a few of the large cities and their surrounding territory now use some energy for steam railroad electrification.

Steam road electrification demands upon the central stations of electric light and power companies have almost entirely developed in the past decade. At the time of the first electrification, around thirty years ago, the railroads built their own power plants and continued the policy up to 1920 or thereabouts, when the early contracts were made by the railroads and central station companies for energy. Terminal electrification during the past few years has to some extent been following the plan of purchasing power. Although this was advocated years ago by progressive power company executives, not until the railroad company officials were convinced that a power service equal to or better than their own could be furnished by the electric power industry did the railroad corporations contract with the power companies for energy. It is now becoming widely recognized that the production of electrical energy is not the transportation companies' business and that the plan of purchasing it from the central station companies is superior.

Summarizing, there has been used in 1929 a total of 76,920,000,000 KWH, as against 29,144,000,000 KWH in 1920. This means that the central electric light and power stations have had *to generate 92,000,000,000 KWH.* A slightly improved capacity factor has made this possible with a generator capacity that has not grown quite in proportion to the load. This factor is discussed in another section. A much better capacity factor may be expected as the load becomes more evenly balanced and interconnections are extended.

Figure I indicates graphically the relative changes that have taken place in central station load in the past decade. Figures II and III present curves of central station capacity and production. The production figure of 1929 is comparable to those of the U. S. Bureau of the Census for prior years. The 92,000,000,000 is production of central electric light and power stations only. There is not included energy generated by electric railway plants and such other power stations as are reported upon monthly by the U. S. Geological Survey.

In Figure II is the division of central stations as between fuel

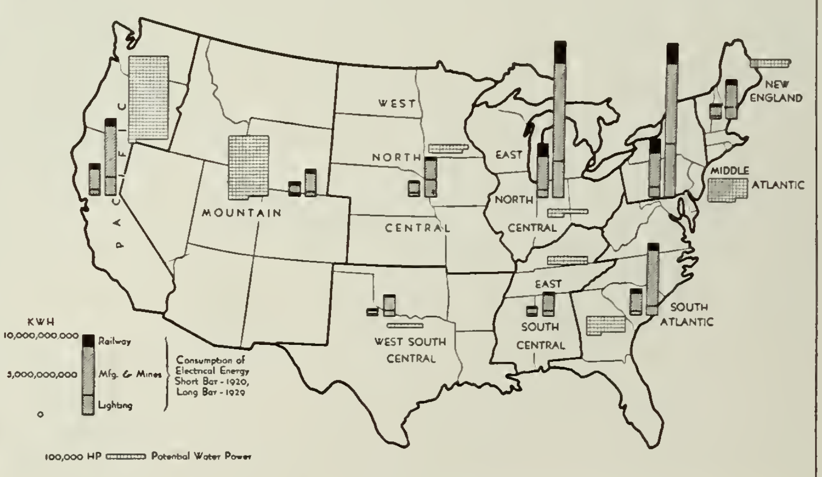


Figure I. Consumption of Electrical Energy 1920 and 1929; and Potential Water Power; by Sections of the United States.

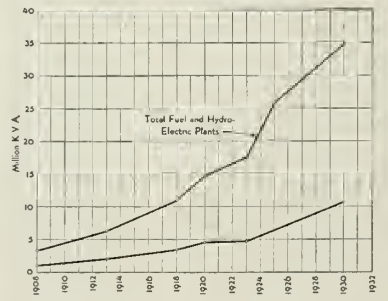


Figure II. Capacity of Generators in Central Electric Light and Power Plants in the United States.

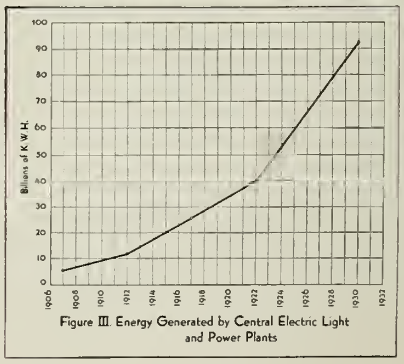


Figure III. Energy Generated by Central Electric Light and Power Plants

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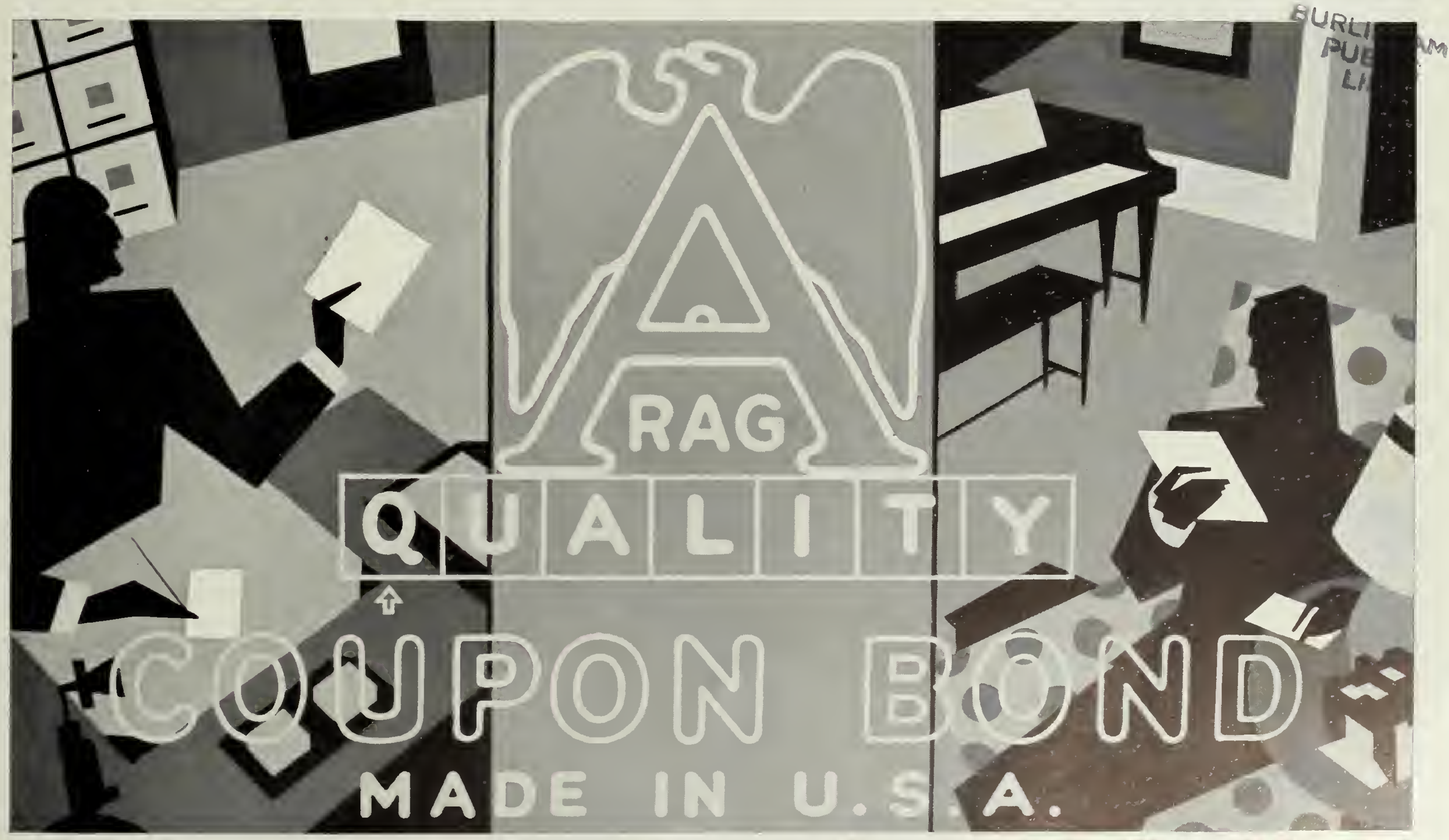

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burning and waterpower plants. Less than 30 per cent of the total KVA at the present time is capacity of hydroelectric plants. And as to location, 82 per cent of the fuel burning plant capacity and 52 per cent of the hydro plant capacity are east of the Mississippi. This indicates the extent to which the electrification of industry has had to depend upon fuel. It must continue to use fuel to produce the major portion of the power required. The ratio of waterpower plant capacity to fuel plant capacity can increase but little if any, and ultimately it must decrease a good deal.

The figures of the U. S. Geological Survey's estimate of potential waterpower in the United States (announced 1924) are the basis of this statement. The potential developed and undeveloped waterpower in the United States available 50 per cent of the time is 55,030,000 horsepower. We now have primary power capacity as follows, not including steam railroads:

	Horsepower
Central electric stations	40,000,000
Electric railway plants	4,000,000
Power plants of manufacturing establishments and mines (not including motors operated by central station energy)	24,250,000
Total	68,250,000

Central stations of the electric light and power industry now have a capacity equal to nearly 75 per cent of all the potential waterpower in the country. The distribution of the potential waterpower is:

Section	*Horsepower*
New England	1,978,000
Middle Atlantic	5,688,000
South Atlantic	4,464,000
East North Central	1,391,000
West North Central	1,844,000
East South Central	2,004,000
West South Central	888,000
Mountain	15,513,000
Pacific	21,260,000
Total	55,030,000

From this distribution and from Table II, it is seen that while only 29 per cent of the central station capacity is west of the Mississippi, 72 per cent of the nation's waterpower is there. Further, just about 80 per cent of industry, as represented by manufacturing and mines, is at present east of the Mississippi River. The nation's industrial center has moved from the Atlantic coast toward the Mississippi gradually over a period of scores of years. But for it to move to the location of our greatest waterpower resources, the mountain and Pacific states, is almost inconceivable. Can mountain states power be brought to Middle West industry?

The commercial aspect

Divide the decade into two five-year periods, analyze the acquisition of new electric light and power business during each; both are found to approach the condition of a seller's market. This is more evident during the first half decade due to the readjustment and catching-up processes after the War. But even though such was the case, it was accompanied by very little selection of new business. The load was taken as it came or as fast as the utilities could build plants and extensions to care for it. It represented a growth natural under the conditions, but not as would be planned to get the maximum use of equipment.

The selective procedure cannot be followed by the electric light and power utility to the extent of accepting or refusing new business offered it; but means for balancing the load and improving both power factor and load factor do exist. The new business of 1925-29 has been of a slightly more desirable kind in general than that of 1920-24. In the past six years, more than ever before, commercial departments have been seeking loads for off-peak periods, such as truck charging and certain heating and chemical processes; to get a wider use of household appliances; of electric signs; and to promote such other sales as balance the load. The results of the efforts are noticeable to a limited extent upon some load curves, just beginning in other cases. In another five years the ratios depending upon these factors will be materially improved.

Rates for some classes of service, business that has developed largely since 1920, were in the beginning figured upon a very indefinite basis. The electric range load is an example. Rule of thumb, without much rule at that, determined charges before the N.E.L.A. investigation of 1924-25. Other studies by this association have aided commercial departments in building rate structures and in the load selection problem.

It can be said that there are now fairly generally adopted basic rate structures for nearly all classes of service. Even as late as 1920 there were a great number of flat-rate residential customers. Many utilities charged a fixed amount per kilowatt hour regardless of quantity, modified perhaps by a monthly minimum. More equitable schedules have been or are being worked out by nearly every progressive company and for many municipally owned systems. Widely used today and showing the greatest growth in the past ten years is the rate structure combining service, demand, and energy charges. Methods of computing, applying, and billing vary, but the basic principles are similar, and in the ten years this type of schedule has become standard practice.

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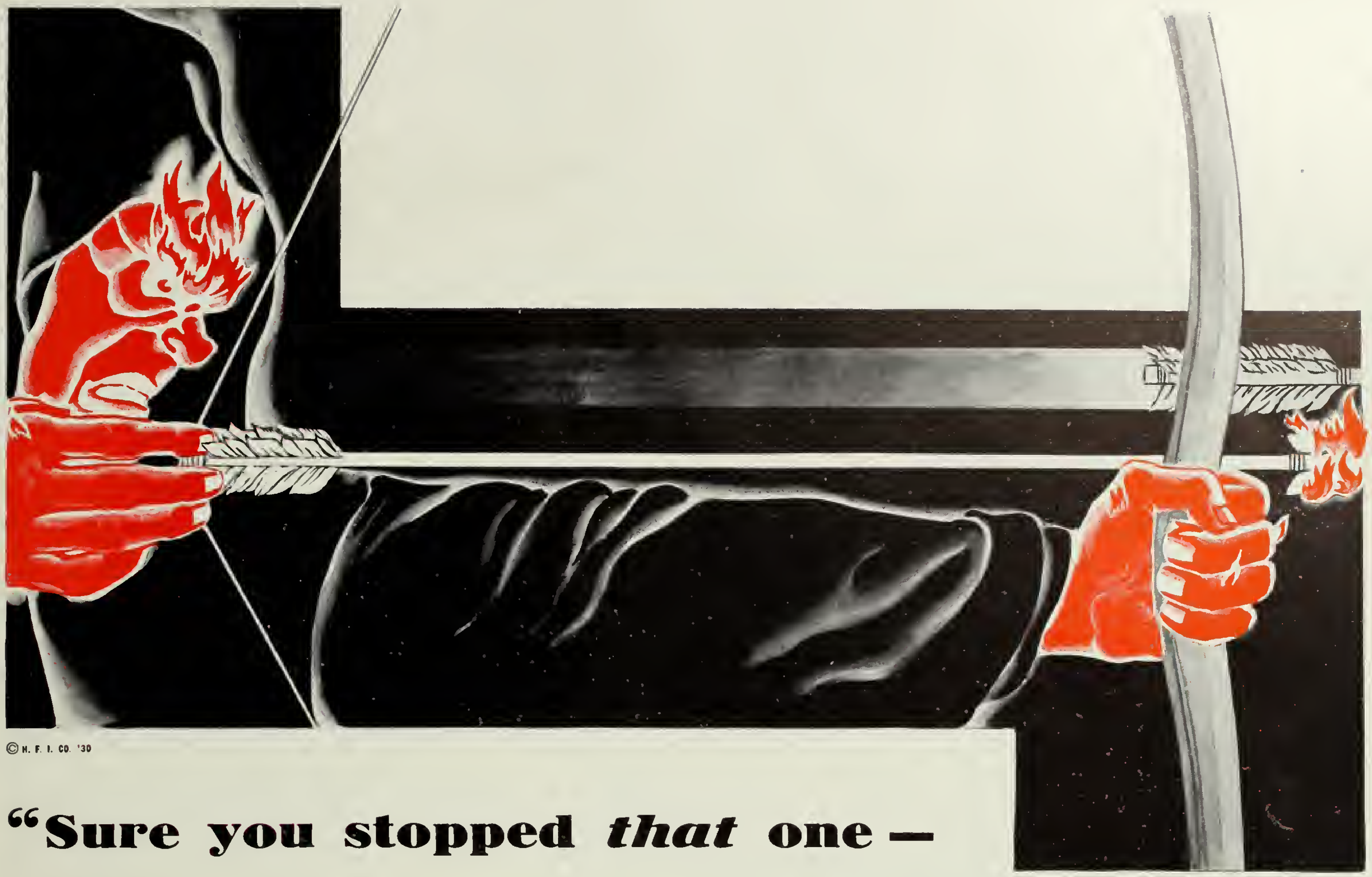
Agriculture is said to be the greatest industry of the nation, the

[*Continued on page 103*]



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The keys that gave her FREEDOM

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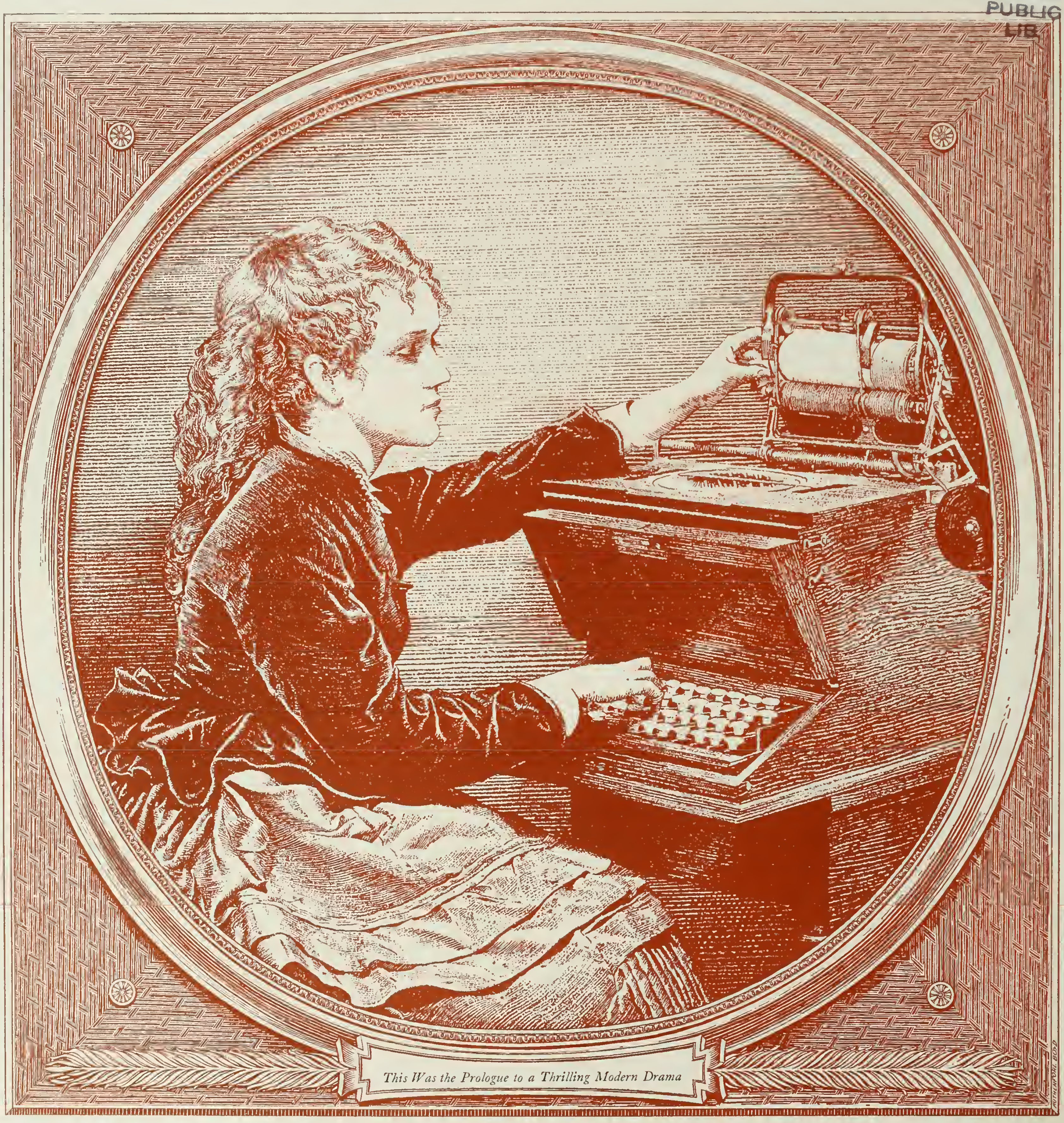

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But the Remington Typewriter was destined to play an even greater rôle in American business. For it was the forerunner of all the modern machinery of business. Out of it came the adding machine, the accounting machine, the billing machine, the calculating machine, and all the other super-human robots of present-day business. It began the revolution in business methods that has culminated in Remington Rand—a combination of all the forward-looking, practical business machines and systems. And just as the Remington Typewriter helped American women to freedom, so Remington Rand is emancipating the American business man.

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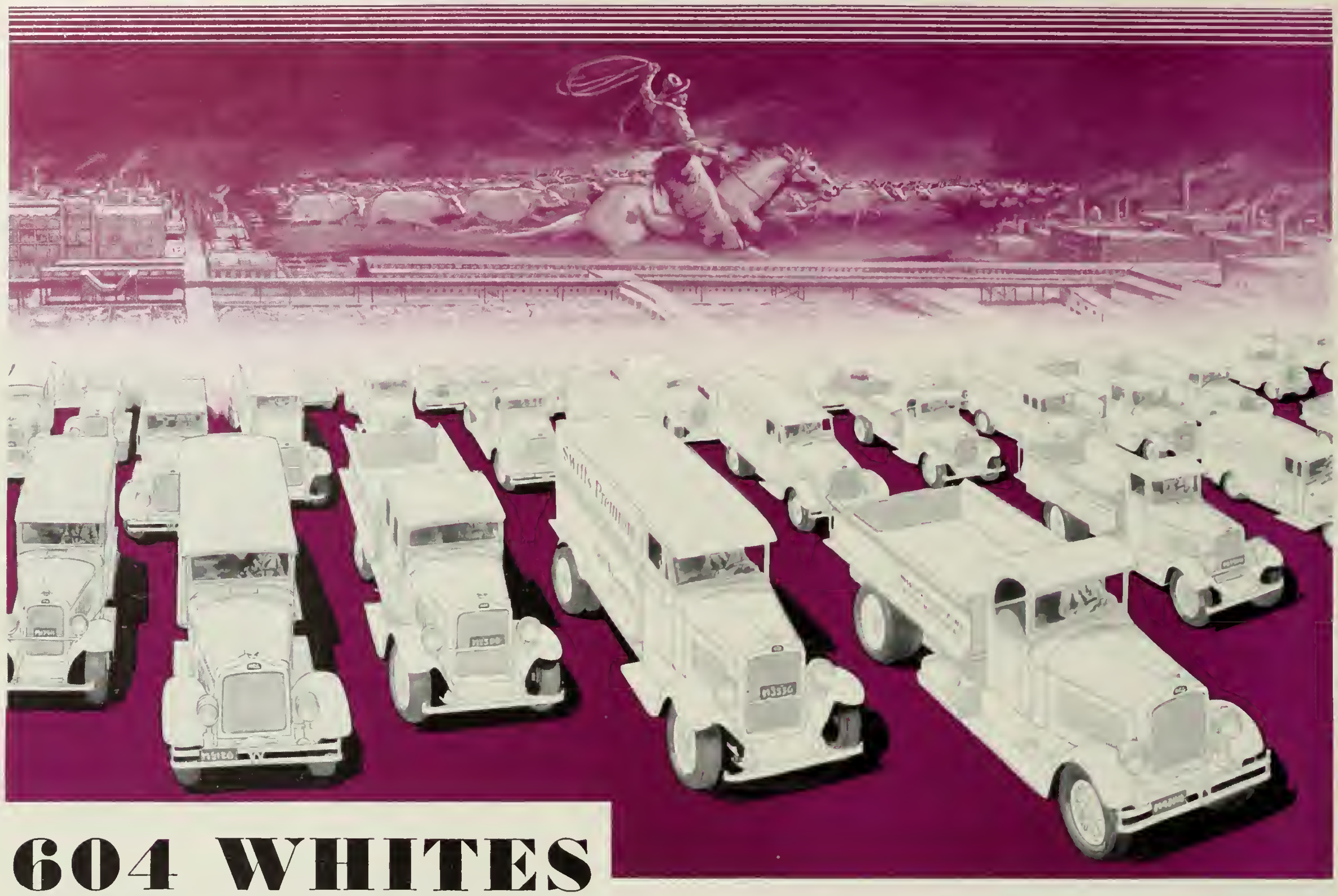

604 WHITES

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Swift & Company makes only 1.25% profit on its gross sales of a billion dollars. This represents less than a nickel a week in the meat bill of the average American family.

Distribution is the keystone in the operations of this great packer's 39 plants, 80 produce houses and over 450 branches spread throughout the United States and Canada.

Motor Trucks are an important aid to the efficiency of Swift distribution. They are called upon to lengthen the radius of operation, to speed up short hauling, to supplement branch line railroads.

In the vast fleet comprising several makes of trucks operated by Swift & Company there are 604 Whites. This fleet of Whites has grown through re-orders since 1913, when the first two Whites went into service.

In one city an ordinance requires that all fresh meat be delivered to the public markets before sunrise. Here a part of the Swift fleet of Whites works seven days a week, 24 hours a day, the engines being idle hardly long enough to cool off. From midnight to dawn these Whites ply the city, making deliveries of fresh meat to the public markets before sunrise. Starting at early morning with crews of new drivers, the same Whites take up the task of supplying city stores with Swift products.

The growth of this fleet of 604 White Trucks in the service of Swift & Company is a tribute to their efficiency in an organization where efficiency in all its operations has been developed to the highest point.

THE WHITE COMPANY, CLEVELAND

WHITE

A COMPLETE LINE OF FOUR AND SIX CYLINDER

TRUCKS
BUSSES

Electric Light & Power: 1920-1930

[*Continued from page 98*]

basic industry. The railroad man admits that, but his qualification is that transportation has made agriculture what it is. The statement is perhaps true. What about the relation of agriculture and the electric light and power industry? What can electricity do for the farms? A problem is presented the solution of which falls not to the commercial department, as such, but one which will require management, engineering, and legal thought as well.

There are in the neighborhood of 6,000,000 farms in the United States. Around 15 per cent have some kind of electric service, either their own direct current storage battery plants or central station connections. This electric service goes little further than lights for the buildings and a few household appliances. What is the motor capacity that might be advantageously used on these 6,000,000 farms? As yet we do not know. A good deal of study has been put upon the entire question in the past ten years.

Unless the average farmer can use a much greater amount of energy than the average urban lighting customer, it is difficult to make the service profitable to either farmer or utility. It is believed that the situation is better than in 1920. The report of the "Committee on the Cost of Rendering Service" in Michigan in 1922 states relative to forty-seven power and light utilities, "None of them reported profitable business from rural lines." In 1925, in one of the west north central states company officials stated that they were about breaking even on farm business. This was in a prosperous farming community, one which came through the period of depression much better than the average. There is more rural business being handled each year. It is becoming an appreciable amount to many middle western utilities. But to put the use of electricity by the farmer on a basis at all comparable to the benefits that even the smallest manufacturer receives, much new farm equipment must be devised. For the average American farmer, central station service is very much of a luxury. He knows as the matter now stands, when he can have it at all, that it must be charged toward a more comfortable life for his family and not as a money-making investment. He is sacrificing other things to provide that comfort. High investment per customer and a good deal of the large transformer and line losses are pretty apt to remain. The electric light idea must be supplanted by the electric power conception for economical farm use. The development of advantageous means so that the farmers' electrical energy consumption can increase with benefit to his operation is the only way that cost to him can be reduced and the utility serving can make a reasonable profit. As that gradually takes place, there is opened a wide field for the central station. Even two horsepower per farm would make a total equal to nearly one-third of the present central station capacity.

The financial side of the power and light industry

In this age we are rather prone to use the dollar too much as the standard of comparison. But when the attempt is made to gage the magnitude of our material things, the monetary unit is the one by which most of them are best measured. It seems that the curve Figure IV, capital invested in the electric light and power industry, immediately makes the observer realize the vastness of a great undertaking. Its magnitude, the rate of growth, and the confidence that the American investor has had in it are all portrayed. It cannot present a picture of the labor, the thought and study, and the sacrifices that have accompanied its growth.

A good deal of foreign capital went into our railroads and other industries. Electric light and power development has been almost entirely with American money, nearly 60 per cent of it in the past ten years. America's confidence has been such that it has been possible to finance to the extent of adding $5,700,000,000 in the decade. Financing to the amount of nearly $1,250,000,000 in 1924 was a remarkable accomplishment. Securities were put on the market faster than ever before, but even as the monthly offerings became larger, the cost of the money went down.

Three things seem to stand at the head of the list as being most important in electric light and power financing of the decade.

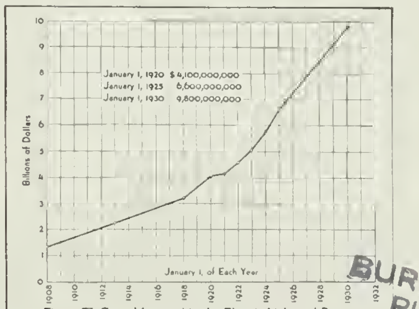

Figure IV Capital Invested in the Electric Light and Power Industry in the United States.

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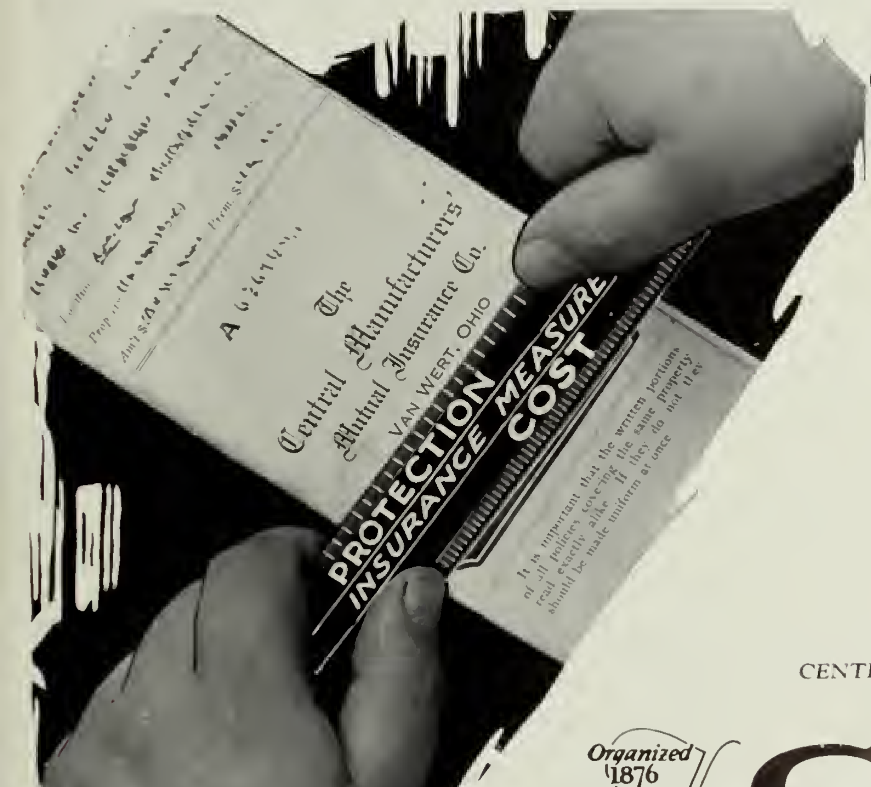

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They are not new to the period, but their application has been widely extended. They are the open end mortgage, customer ownership of stock, and the place of the holding company in the scheme of organization. But one of them applies strictly to financing. The other two have a bearing upon public relations, management, and operation as well as financing. The open end mortgage is primarily a financing means.

The desirability of the open end mortgage as applied to power and light properties came to be recognized very widely at the time of rapid expansion and heavy refinancing in the first half of the decade. The issue, based upon a fixed percentage of capital expenditures, immediately becomes an index of property value. Short term securities do not have to be issued at heavy discounts under normal conditions. Calling securities under unfavorable circumstances is largely eliminated. The serial bonds of the open end mortgage make unnecessary the expenses of a sinking fund. These bonds may all be offered as first mortgage and as a result sell at a relatively higher price that would make a purely refunding issue necessary because of a closed first mortgage.

Making the public a partner by sales of stock to customers was begun in the West, pushed most vigorously in the Middle West, and now it is hard to find a company that has not adopted it as one means of adding new capital.

From 1920 to 1925 the average holdings of all stock in power and light companies dropped from fifty shares per stockholder to about thirty. In 1919 sales of stock to customers were less than 195,000 shares. In 1924 the figure had been multiplied by ten and the average sales per year for 1925-29 have been 2,400,000.

The customer owns the power company serving him. This is not true as to proportion of investment or voting power. But the individual holders of small blocks of stock are the ones who are getting service and represent public opinion. Policies must be formulated to satisfy the customer. However, to satisfy him, not only must the property be maintained to give him the most efficient service and keep his investment intact, but it must be managed in such a manner as to pay him a dividend upon his investment. He therefore controls.

A good deal of the rearrangement and interconnection of properties that has taken place in the 1920-30 decade would have been well-nigh impossible without the holding company. The strength for bringing together credit and a consolidation of financing power must come from some such organization. Through it there has existed the means of averaging a common stock risk and securing common stock capital so that a safe investment is available to the public.

The financial structures of some of the operating corporations under holding company control have been quite severely criticized. It is said that the proper stock and bond ratio has not been maintained. It is true that those operating companies which closely adhere to a fifty-fifty division between stock and bonds, and in particular the ones that have but one class of stock, head the list as to financial rating.

Holding company service is not confined to financing. Engineering ability that could not be afforded by the independent company is available for application to that same property if under the direction of a holding company. Management that the independent system could never secure is provided by the supervising organization. On the whole dependable holding companies have been a real asset to the power and light industry through the last ten years and have probably done more than any other one agency to develop interconnection and superpower.

The great amount of money invested has been mentioned and a curve of investment increase presented. From where has the money come, and what has been its cost? Attention is directed to Figure V. First is the amount from company sales to customers. During 1920-24 this averaged $123,000,000 per year, and 1925-29, $240,000,000. This made only a small part of the total. Investment houses handled an average of $750,000,000 per year during 1920-24, and $875,000,000 per year for the remainder of the decade. Refinancing, however, required $250,000,000 per year for the post-War period 1920-24, and $235,000,000 per year for 1925-29. Refinancing of the first half decade had many millions of War-period short term notes to take care of, and that of the second half has included the calling of issues of

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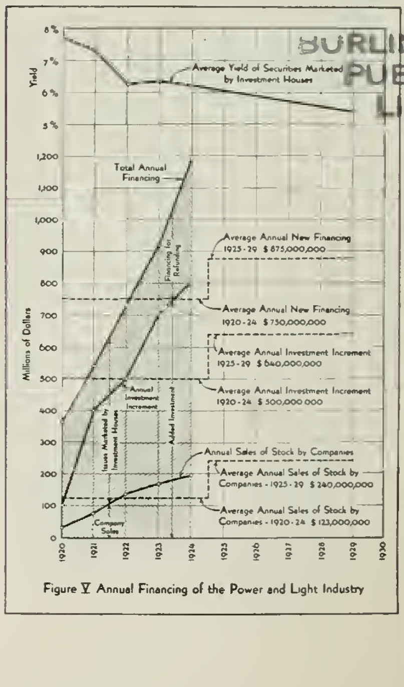

Figure V Annual Financing of the Power and Light Industry

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PLAYING BLIND MAN'S BUFF WITH VITAL FIGURES

is at best a stupid pastime—it's decidedly less fun when vacation schedules are robbing you of your experienced workers. Then's the time that still more frequent errors and delays confirm the feeling that you are working in the dark.

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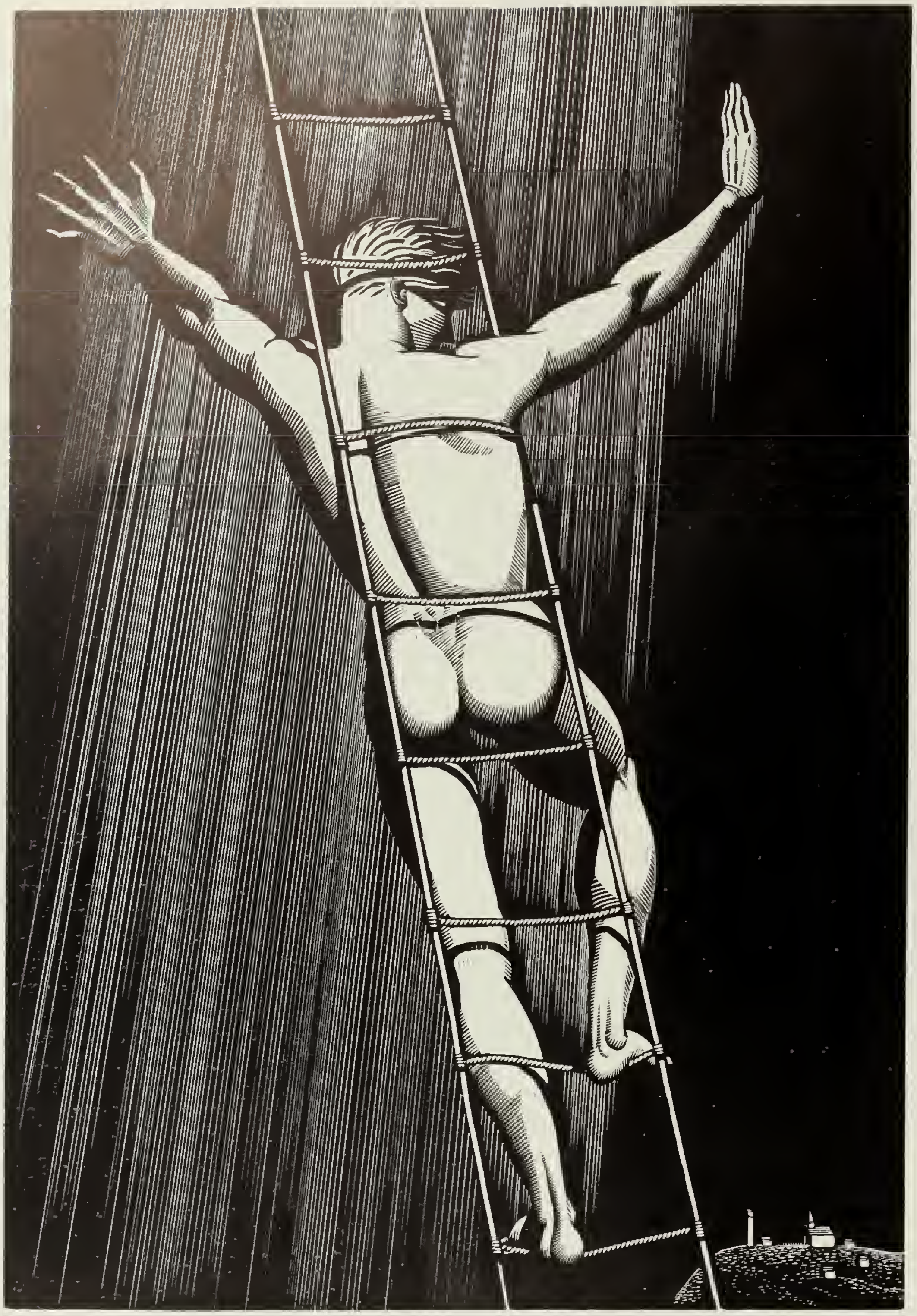

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HAIL AND FAREWELL

From the collection of the American Car and Foundry Company, makers of fine motor yachts.

Fortune's Supplement: Trends & Men

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Movies First in June Agriculture; Next Season Crop Now Selling

USUALLY described as the third of industries or lowest of arts, motion pictures might even be called, judging from results, first in agriculture. In one brief month, seeds are planted, produce sold, huge profits counted, and during the year that follows great peoples feed on the reluctant product with varying taste.

Barnum is generally held up as the model of showmanship; the circus is still considered, by lazy and receptive minds, the finest child of ballyhoo. Barnum! Each year the motion picture business, worshipping Barnum, leaves Barnum far behind.

June is the month. In June the film companies plant the seeds of their plans for a year, sell them promptly, in the fervor of the moment, to the nation's 20,000 exhibitors. Much of the product sold is planted in June only in the fertile minds of shrewd producers, go-getting salesmen, hopeful exhibitors, prodded public; it is sold, nevertheless, and most of it actually appears during the ensuing year. Some of it is pronounced good.

This year, as each year, motion pictures will spend more than ever before in making new pictures: $200,000,000, of which $175,000,000 will be spent on film production and the rest on new facilities, mostly new sound stages. But this year—and this is the prize idea of the year, a subtle keynote—there will not be more and bigger pictures, in the circus manner; this year there will be fewer and better pictures.

The twelve leading producers —Paramount, the Warners, Fox, Metro-Goldwyn-Mayer, Radio, United Artists, First National, Pathé, Universal, Columbia, Tiffany, Educational—will make 400 feature pictures and more than 1,000 "shorts." The 400 will be made for what 800 used to cost and will have, with all-star casts, the plots and tunes of richer minds, talk, and color. Announcements to this effect, given each of the various conventions of motion picture sales organizations held during June, brought cheers and applause from salesmen proud to be known as hard-boiled.

Paramount, thanks in no small measure to the financial difficulties and internal quarrels of the Fox organizations during the year past, again deserves to be considered first. "You can take it for granted," is the modest statement of Sidney R. Kent, "that we never turn out a bad picture." Paramount will make a minimum of 65 pictures and 300 shorts, one-fifth at the New York studios in Astoria, the remainder in Hollywood. Paramount is counting on familiar stars: George Bancroft, Clara Bow, Nancy Carroll, Ruth Chatterton, Maurice Chevalier, Dennis King, Harold Lloyd, the Marx Brothers, Moran and Mack, Charles ("Buddy") Rogers, and the newly arrived Jack Oakie. Paramount is hoping with two girls from abroad: Claudette Colbert from France and Marlene Dietrich from Germany. Paramount is looking forward to a picture version of *Berkeley Square*.

The Warners, who revolutionized the industry by forcing it into sound and then into color, will make forty-two features and numberless "shorts," many of them in several languages, to entice the waning foreign market back into the fold. The Warners have signed some enticing musical talent as, for instance, Oscar Straus, Jerome Kern, Sigmund Romberg.

Clarke & Sheehan

Led by Harley L. Clarke and the dynamic Winfield R. Sheehan, Fox has made a dramatic reëntry into the competition. Fox has combed the stage, the radio rooms, the night clubs for an extraordinary array of talent: John McCormack, Will Rogers, Beatrice Lillie, Kenneth MacKenna, William Harrigan, Willie Collier, Tom Patricola, retaining such screen stars as Victor MacLaglen, Edmund Lowe, and the celebrated pair of Janet Gaynor and Charles Farrell. Fox will make forty-eight pictures at a cost of $25,000,000.

Metro, perhaps the smartest of the producing companies (still on its own, incidentally, despite the sale to Fox) will make at least fifty pictures. Metro, wisely, keeps most of its plans in abeyance, awaiting a psychological moment and then working fast. However, Metro is definitely counting on *The Big House*, a prison picture, *Trader Horn*, largely made in Africa.

The Radio organization planned such a stupendous program that it induced the film trade papers to go to a bigger page size for one issue to tell about it. Possessing the largest sound stage in the world, Radio will make thirty-four pictures at a cost of $15,000,000, counting heavily on the newly signed Amos 'n' Andy of broadcasting fame, also Edna Ferber's new novel *Cimarron*, with Richard Dix.

Pickford, Swanson

United Artists takes Al Jolson away from the Warners to make *Sons o' Guns*, looks forward to a new picture by Mary Pickford and another by Gloria Swanson. Douglas Fairbanks still hopes to do a picture directed by the great Russian, Serge Eisenstein. *Hell's Angels*, made over a period of three years at a cost of $4,000,000, is a United Artists possession. Irving Berlin is preparing his first independent production.

First National, owned by the Warners, will make twenty special pictures, with Richard Barthelmess, Marilyn Miller, Otis Skinner, Ann Harding, *et al.* Universal will bring forth the smouldering Lupe Velez, the tuneful John Boles, and will remake *The Hunchback of Notre Dame* in sound. Pathé will make another twenty, starring Ann Harding, Fred Scott, Helen Twelvetrees, William Boyd, Constance Bennett, Eddie Quillen, and the operatic Mary Lewis. Tiffany, elated over the success of *Journey's End*, has elaborate plans for the new season. Columbia will make twenty pictures at a cost of $10,000,000, concentrating on old stage plays such as *The Criminal Code* and *Dirigible*. Sono Art-World Wide, which ought to be included among the producing companies, has $4,000,000 and expects to spend most of it on Cornelius Vanderbilt Jr.'s *Reno*.

Vans Take Mop; Double Mileage

Who.—The Missouri Pacific, largest of the southwestern roads, which owns or controls 11,000 miles of line; whose tracks reach every big traffic center of the Southwest, including New Orleans, Memphis, St. Louis, Kansas City, Texarkana (Arkansas), Galveston, El Paso, Brownsville (Texas), and Pueblo (Colorado); whose income reflects the growing prosperity of the region it serves (and dominates), jumping from a 1928 net of $9,512,700 to a 1929 net of $12,217,800; and which the I. C. C. consolidation plan makes the nucleus of one of the nineteen systems . . .

Who.—The Brothers Van Sweringen, who need no introduction . . .

What.—Announced their economic betrothal at the annual MOP (railroadism for "Missouri Pacific") stockholders' meeting. Eight of the seventeen directors, including former Chairman William Henry Williams, were displaced by eight Van Sweringeneers headed by Oris Paxton Van Sweringen himself, who is the new chairman. The Cleveland brothers engineered their coup by buying up last winter some 66.4 per cent of the total outstanding MOP stock . . .

Why.—Fateful is the conjunction of Van and MOP. To the former it means a doubling of their mileage (the C. & O., Pere Marquette, Nickel Plate, Erie, and other Van Sweringen roads all together just about equal the MOP's 11,000 miles of line) and a great step towards the Pacific. (MOP needs only the Denver & Rio Grande Western [half of which it controls] and the Western Pacific in order to reach San Francisco.) To the MOP the conjunction means the final dissolution of the tie that once made "Missouri Pacific" practically a synonym for "Gould" (the last Gould representative on the MOP, Finley J. Shepard, was one of the directors who went by the board at the accession of the Van Sweringens). Once again, under Vans as under Gould, the MOP figures in a major attempt to span the U. S. with one system.

Bargains in Everything—Silk, Tin, Steel, Fiction, Coffee, Sugar, Cars

DURING the month, here and there, U. S. citizens picked up bargains. Some 800,000 admirers of the fiction approved by Editor Ray Long stopped at some 60,000 newsstands, pulled about $280,000 from purses or pockets, and discovered they needed only $200,000. Each one thereupon noted that the *Cosmopolitan* now costs only a quarter, and each dropped a dime back in purse or pocket. In Manhattan, some went to a Schulte store, added one cent to the dime, and bought a fifteen-cent package of cigarettes. The U. S. mint, which made the dimes, was aware that in the great markets of Shanghai and Bombay, it could buy silver for thirty-four cents an ounce, the lowest prices in the world's history. And so it was with tin. And so with zinc. And lead.

Diamond-cutters in Belgium, organizing patrols to see that none violated the agreement to work only fifteen days a month, knew that the incredibly rich American market was for the moment dull, cautious, bargain-hunting. In Japan were 6,000,000 pounds of spring cocoons, from which crawled millions of worms to spin more silk than the world can possibly buy, even though silk, at $3.60 a pound, is a record bargain. In Malaya, rubber accumulated in warehouses until there remained undistributed throughout the world more than 400,000 tons, and at Akron, Ohio, the great tire companies prepared to buy at twelve cents a pound. Four years ago the price was eighty-five cents; once it touched $1.20.

Bargain rubber will mean, in time, bargain tires. Early in the month, a tire cut of 5 per cent to 10 per cent was daily expected. Thus was an automobile's upkeep made cheaper, and at the same time its initial cost seemed to be tumbling while Mr. Ford slashed prices $5.00 to $25; Mr. Chrysler $10 to $35 (on De Sotos); and Mr. Macauley took $400 off the price of Packard.

So it went, and everywhere there were bargains to be found, whether in fiction or Packards or cheese or tartaric acid. In Washington, a President and several cabinet officers surveyed the situation, opined that the bargain season would not last much longer. Secretary of Commerce Robert Patterson Lamont declared that business would recover in three months. Secretary of Labor James J. Davis announced that Herbert Hoover alone had prevented great wage cuts in the time of depression. Meanwhile June showed low imports and exports, lessened production, and a commodity price list which included these more or less startling items:

Coffee.—Nine cents a pound. Recent high was twenty-three cents in August, 1926. Steady decline from seventeen cents a year ago. Coffee is one commodity notably cheaper to consumer. An amount of coffee costing $1.00 in 1913 cost $1.66 in 1929 and $1.38 in 1930. Disturbing factor: too many beans for the thirsts.

Silver.—Thirty-four cents an ounce. This is the lowest price in the history of silver; is steadily falling. Impoverished condition of China, chief silver user, and disturbed conditions in India, second largest silver user, chief causes. The Chinese silver dollar, par fifty cents, declined to thirty-five cents. Four Shanghai banks closed in one day. All factors discouraging.

Copper.—Twelve and one-half cents domestic; thirteen cents export. Copper held at eighteen cents a pound for twelve months, was cut to fourteen cents in May, 1930, through "buyers' strike." Cut produced record May sales, then dullness again. Disturbing factor: consumers holding out for twelve-cent copper; dividend cut by Kennecott.

Tin.—Thirty-one and one-half cents a pound. Lowest tin price since 1922. Tin prices fell steadily from around seventy cents a pound in December, 1926; have now declined for forty months. Zinc and lead were also at long time low points.

Cotton.—Sixteen cents a pound. In April, 1929, cotton was twenty cents a pound. Disturbing factor: continued diminishing of American cotton's dominating position in world markets.

Silk.—Three dollars and sixty cents a pound. Another new all time low. The year-ago price was $5.25. Disturbing factor: a 10 per cent increase in Japanese spring cocoon crop with stocks already at record levels. The United States last year imported silk valued at $432,340,000, making silk, for the third successive year, the biggest U S. import.

Sugar.—Three and three-tenths cents a pound. Sugar was lower than at any time since 1902. Protracted tariff wrangles have had a most unsettling effect on sugar prices.

Rubber.—Thirteen and three-tenths cents a pound. Rubber was between eighty and ninety cents a pound in January, 1926; has been down to eleven and nine-tenths cents a pound this year. Disturbing factor: failure of Anglo-Dutch rubber-tapping holiday to prevent rubber stocks from reaching 420,000 tons, world's largest supply.

Wool.—Thirty cents a pound. Wool was close to fifty cents a pound during most of 1928, has since steadily declined.

Hides.—Fourteen cents a pound. Recent high in hides was nineteen and one-half cents in September, 1929. But in spite of decline in hide prices, boots and shoes showed a small price increase.

Steel.—Finished steel, two and two-tenths cents a pound. Scrap, $16 a ton. The finished price is not much above the low-water post-War slump figure reached in February, 1922. Scrap was around $18 through most of last year. Encouraging factor: large orders from natural gas pipe lines. Disturbing factors: poor railroad earnings and passing of spring auto production peak without peak reaching any notable height.

Hershey Earns More for School By Cheaper Cocoa, Bigger Bars

IN THE first quarter of 1930, U. S. corporations potent enough to be included in trade and market averages showed a profit loss of some 20 per cent, compared to their 1929 figures. But no shrinkage was reported by Hershey Chocolate Corp., chocolate-bar and cocoa company most of whose stock is held in trust by Founder M. S. Hershey for the Hershey Industrial School at Hershey, Pennsylvania. The Hershey Corp. made $2,265.140 in the first quarter of 1929 and $2,320,818 in the first quarter of 1930. Furthermore, sales in the second quarter were running ahead of their 1929 figure (partly because of a 25 per cent increase in the size of the Hershey almond bar).

The decline in commodity prices has been the most important factor in Hershey progress. Best known for its five and ten-cent chocolate bars, which account for about $25,000,000 a year, 60 per cent of the company's total income, Hershey is the world's largest consumer of cocoa and also a large consumer of sugar. In June, 1930, cocoa beans were selling under 8 cents a pound, compared to 9.2 cents at the end of 1929, 10.75 cents in September, 1929, and an average five-year price of 12.11 cents a pound. At the same time, raw sugar had declined to 1.4 cents a pound, the lowest price in its history. Almonds, tin foil, paper, cardboard, and milk stood also at new long time low levels, and Hershey uses daily some 450,000 quarts of milk together with large quantities of the other materials mentioned. Meanwhile with no lowering in prices and a slight increase in sales, Hershey is steadily increasing its profit margin. Falling commodity prices work against as well as for the manufacturer, since a lowering in the price of materials may represent an inventory loss greater than the increase on the profit in the finished product. Hershey, however, has set aside a depreciation fund to cover inventory declines, and with this loss already accounted for, the profits for the second and third quarters are expected to be greater than even the excellent first-quarter showing. Full results of commodity price declines will not be evident until about August.

In addition to its chocolate bars, Hershey makes cocoa, chocolate syrup for soda fountains and housewives, chocolate kisses, and a new cocoa-milk bottled beverage recently introduced with gratifying results. The company has been using its cash surplus to buy up its preferred, and with no funded debt and no outstanding bank loans occupies an almost ideal financial position. Hershey common sold early in June at slightly over $100,at about thirteen times 1929 earnings and with a dividend return ($5.00) of about 4.7 per cent.

BURLINGAME PUBLIC LIB.

Mighty Mates for Leviathan, New Cabin Ships, A Yacht

CONTRACTS have been let for the biggest boats ever to be built in American yards.

When the startling Mr. Paul W. Chapman bought the United States Lines from the government, he agreed to promote an elaborate building program, to provide the mighty *Leviathan* with mighty mates. This he has begun to do after considerable delay prompted by foreign objections and domestic red tape. In 1932 the ways of the New York Shipbuilding Co. plant at Camden, New Jersey, will smoke with the friction of two 30,000 ton liners, 700 feet long, accommodating 1,300 passengers in first, tourist, and third class cabins (the United States Lines have abolished the bourgeois second cabin). Shortly thereafter the steely hulks will be embellished with Jacobean drawing-rooms, tile pools, gymnasiums, wireless telephones for ship-to-shore palaver, all the happiest devices of ship chandlery. The vessels have been designed to make twenty knots and will have two funnels, both real (the *Leviathan's* third funnel is for symmetry, not smoke). Floated at a total cost of $21,000,000, they will join the *Leviathan* on the New York to Southampton run until such time as two larger ships are built, when they will be transferred to the New York-Hamburg route.

Still more interest attaches to this second projected pair, as yet monstrous phantoms, which will cost more apiece than both their predecessors together. The United States Lines intends them to be the largest common carriers in the world, fleeter than the *Bremen* and *Europa*.

These momentous shipyard gestations are symbolic of the fecund healthiness which is now to be observed in all American maritime affairs, in direct contrast to the lean and dour aspect of many landlubbers' concerns. A bulletin issued by the United States Shipping Board proclaims that the American merchant marine now numbers some 700 ships of 4,000,000 gross tons directed by 83 companies to 75 domestic and 400 foreign ports as against only 20 lines and 112 ships of 600,000 gross tons in 1914. This growth is generously abetted by the United States Shipping Board which, by the Jones-White act of 1928, is empowered to lend steamship companies three-fourths of the cost of ships built and has to date loaned $93,000,000.

New & Electrified

The first low rate cabin accommodations on the Pacific were offered when the new *Hikawa Maru* of the Nippon Yusen Kaisha Line came Dieseling into Seattle. First of three motorships projected by the Japanese Company, *Hikawa Maru* is 535 feet long, 11,600 gross tons. She has thirty-four staterooms in the cabin class and provision for sixty-nine persons in the tourist cabin. She is completely electrified, from radiators to hoisting machinery . . . Far grander cabin ship is the French Line's *Lafayette* which recently ran its maiden voyage in the New York-Havre service. Registered at 22,000 gross tons, 615 feet long, she invites 591 first class, 334 tourist, and 142 third class passengers with decorations as sleekly contemporary as those of the *Ile de France*. In the degree of electrification she rivals the *Hikowa Maru*.

Yacht

Off Rockland, Maine, are watery wastes wherein innumerable new-built American ships receive their nautical initiations. Last month J. P. Morgan's fourth *Corsair*, bigger and better than the others but, like them, black-hulled and of extreme grace, raced over the course with the rakish, forbidding *Chester*, the Navy's newest cruiser. The *Corsair* proceeded at eighteen and one-half knots, and the *Chester* went twice as fast. But this did not dismay Mr. Morgan, who posted himself, smiling and wind-whipped, on the commodious new bridge which serves to establish him again as the dean of American yachtsmen.

"To Nowhere"

The season's award for originality almost went to National Tours of New York, which chartered three 23,500 ton Cunarders, each for an ocean cruise "to Nowhere." The vessels were to put to sea from New York, plough long arcs in the Atlantic, turn about in mid-ocean, and return again to New York after six and one-half days of sailing. Objections were immediate; the American Steamship Owners' Association declared the procedure violated the spirit of the coastwise laws; shipping men hazarded a guess that the ships would be tantamount to floating saloons, sottish, unruly, yet protected by the law. According to present plans, therefore, the *California*, *Caledonia* and *Transylvania* will each put in at Halifax, which the Cunard Line characterizes as "an added attraction." Other inducements are a Vagabond Orchestra and Gondolier Sextette, both managed by Rudy Vallée.

Long Pipe, Texas to Indianapolis

BRIGHT spot in a poor steel spring were the many pipe line orders received from natural gas and from petroleum companies. Pipe for a new world's longest natural gas line was ordered by the Missouri-Kansas Pipe Line Co.; Phillips Petroleum ordered from Republic Steel 100,000,000 pounds of pipe for an 800 mile line transporting gasoline (not crude oil), and Standard of New Jersey combined with Standard of Ohio to build a 300 mile line for the transportation of crude petroleum.

The Missouri-Kansas Pipe Line Co. line will extend from the Texas Panhandle to Indianapolis or more than 500 miles longer than the previous longest transmission system (the Insull-Doherty line from Amarillo, Texas, to Chicago). Like the Amarillo line and like the projected Columbia Gas & Electric line from West Virginia to the Atlantic Coast (see page 80), the Missouri pipe line illustrates the rapid expansion of natural gas companies and the current long-distance development in the industry.

The Phillips Petroleum Corporation line, running from Texas to Kansas City and to St. Louis, is unusual in that it will transport gasoline. Most existing oil company transmission systems take the crude oil across country to refineries, but Phillips believes transportation of the finished gasoline product will result in a large distribution savings.

Utility Business Forecast for 1932

OF GREAT interest to utility men were the estimates released at the N. E. L. A. convention by the directors of The American Superpower Corp. in connection with the 1930 American Superpower Award (see page 90). From companies* with which the directors are individually associated were obtained figures of operating subsidiaries (representing, in kilowatt hours sold, about 30 per cent of the electric light and power industry), reviewing performances for electrical operations only over the last five years, and estimating results through 1932. All data pertaining to sales of electricity to street railway departments and to other utilities, including street railways, were eliminated. FORTUNE here prints composite figures for 1926, 1929, and 1932:

MAXIMUM DEMAND IN KW

1926	4,723,530
1929	5,933,401
1932 (Est.)	7,449,300

ELECTRIC SALES IN KWH

	Residential and Commercial
1926	3,224,726,625
1929	4,546,271,811
1932 (*Est.*)	6,108,650,541

	Power	Total
1926	13,263,626,605	16,488,353,230
1929	17,647,314,842	22,193,586,653
1932 (*Est.*)	21,672,210,291	27,780,860,832

NUMBER OF CUSTOMERS AT END OF YEAR

	Residential and Commercial
1926	4,289,924
1929	5,176,612
1932 (*Est.*)	5,864,805

	Power	Total
1926	186,312	4,476,236
1929	252,862	5,429,474
1932 (*Est.*)	320,429	6,185,234

GROSS REVENUE

	Residential and Commercial
1926	$189,176,032
1929	255,987,178
1932 (*Est.*)	319,604,550

	Power	Total
1926	$182,538,720	$371,714,752
1929	235,556,915	491,544,093
1932 (*Est.*)	286,759,620	606,364,170

GROSS INCOME (*After operating expenses*)

1926	$221,287,312
1929	310,268,962
1932 (*Est.*)	388,503,674

**American Electric Power Co., American Gas and Electric Co., American Power & Light Co., Commonwealth & Southern Corp., Electric Power & Light Corp., National Power & Light Corp., Niagara Hudson Power Corp., Public Service Corporation of New Jersey, The United Gas Improvement Co.*

From Dictator to Director:

U. & U.

The John Hays Hammonds Sr. and Jr. are preëminent among father-and-son combinations. Hammond Sr., who began with African gold mines, now heads a promotion group (which includes the Fisher brothers) that lately bought control of Atlantic-Pacific Oil Exploration Co., which explores and exploits new fields in Wyoming and Montana. Hammond Jr. recently announced the latest of his radio inventions: an "eye" for fog-bound airmen.

Keystone

Morgan Belmont, of August Belmont & Co., who restores the financial fame of "Belmont" with his $1,000,000,000 group banking project.

The election of Hunter S. Marston, president of Bancamerica-Blair, to the board of General Foods, clinches Bancamerica's recently acquired interest in the company.

International

The late Brigadier General Herbert M. Lord (left) guarded the national budget from 1922-29. He was the true expression of Coolidge economy. The late Daniel M. Lord, who died at eighty-five, saw advertising develop from its babyhood. The firm he founded (now Lord & Thomas and Logan) is said to spend more than $40,000,000 annually for American Tobacco, Pepsodent (Amos 'n' Andy), and other products.

P. & A.

International attention has been focused on Signor Mussolini's recent speaking tour, the first in several years. Business leaders in the United States were especially intrigued by this observation: "Italian workers! If anybody should tell you that elsewhere, beyond our frontiers, there is a reign of abundance, he would be a liar, and knowingly a liar."

PUBLIC
LIB.

Adolph Zukor's home town, tiny Ricse, in Hungary, honored him on his recent visit with a fulsome speech by the mayor, a triumphal arch, much begging. "There is obviously no more illiteracy in Ricse," drily remarked Mr. Zukor of Paramount, on his return, "since everybody must by this time have sent a petition to me."

International

Prince Iyesato Tokugawa, ranking noble of Japan, was last in America as chief Japanese delegate to the 1921 Washington Conference. This June he returns in another rôle: as a loyal Rotarian, to attend the meeting in Chicago of Rotary International. He will go on to Canada (where is his beloved son) and Europe.

Faces of the Month

BURLINGAME PUBLIC LIB.

Blank-Stoller

President Mortimer B. Fuller of International Salt has had the pleasure of seeing his company's stock rise from 69 to over 150 within the year. International's prosperity (reflected in increased dividends, a stock split-up) was long unsuspected.

U. & U.

Back home in Baltimore from his world flight, Van Lear Black is once more devoting himself to the paper he publishes: the famed, respected Baltimore *Sun*. "The flying publisher" has covered some 130,000 miles in his trimotored Fokker monoplane.

Keystone

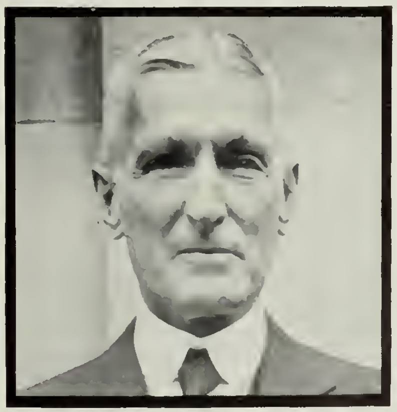
At seventy-four, Sir Herbert Samuel Holt, Canada's great railroad-utility-banking power, prepares to put Canada's steel industry on its feet by a sweeping reorganization of British Empire Steel Corp. His interests bought control in 1928.

International

"Perhaps you will be shocked, but I believe in trade unions," recently declared Mrs. Franklin D. Roosevelt, wife of the Governor of New York. She would solve the servant problem by forming servants' unions with which housewives could deal.

Keystone

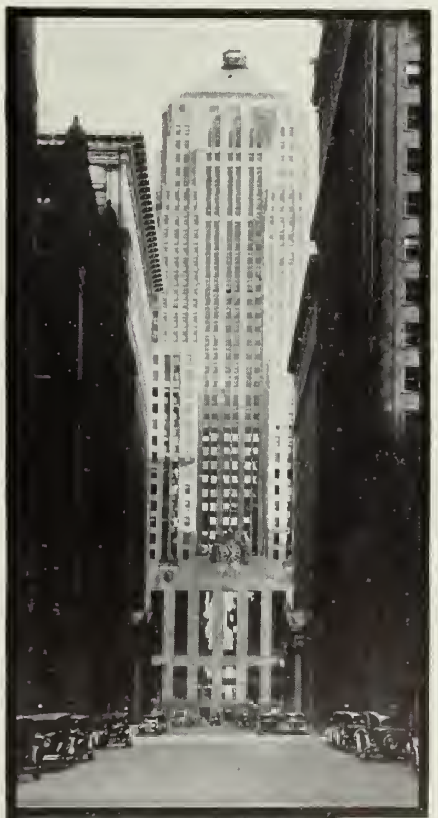
When the very young U. S. Electric Power Corp. revealed, in its first annual report, assets of $1,221,500,000, everyone was surprised except Louis H. Seagrave. Chairman of U. S. Electric and president of American Founders, he is a little-known utility potentate of the first magnitude.

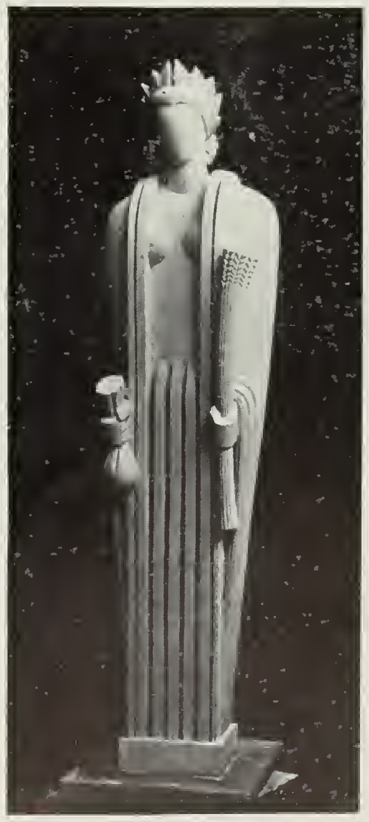


U. & U.

Col. William C. Procter, head of Procter & Gamble (Ivory Soap), has had a busy month: 5,000 artists entered works in this year's Ivory soap sculpture contest; his company has opened a new $5,000,000 plant in Baltimore and has bought (for a reported $8,000,000) Kirk & Co., Chicago soap-makers.

The box office hit of the month and of many months is the movie version of *All Quiet on the Western Front*. One week not long ago it grossed $22,800 in a Manhattan theatre, about double the average in New York. It is making money for Carl Laemmle, Universal Pictures head, who bought the film rights and who spent close to $1,000,000 on the production. And it is making a reputation for its director, Lewis Milestone (above), a chubby, witty Russian hitherto noted chiefly for his deft handling of sophisticated comedy. An ambulance unit went "on location" (a few miles from Hollywood) with the actors and proved handy when Director Milestone himself was knocked unconscious by a bit of flying plaster.





Ceres, goddess of grain (above, right), perches atop Chicago's new $12,000,000 Board of Trade Building (above, left). A modernistic Ceres it is, that stands forty feet high and weighs, though molded in aluminum, fifteen tons. Far under her feet, in a big room (113 by 163 feet) on the fourth floor, hums, throbs, roars the world's greatest grain market. In its eighty-two years of existence the Board of Trade has had twelve different homes. John Alexander Bunnell (left) is now president of the board.

Career Milestones

U. & U.

FLOYD LESLIE CARLISLE

Pirie MacDonald

JAMES COX BRADY

Blank-Stoller

FELIX M. WARBURG

U. & U.

PAUL M. WARBURG

THE CHRYSLERS: WALTER, BERNICE, WALTER JR., MRS. CHRYSLER

U. & U.

MR. AND MRS. S. PARKER GILBERT

Wide World

WILLIAM SHATOV

¶*Floyd Leslie Carlisle, born March 5, 1881, in Watertown, New York; now of Manhattan and Great Neck.*—Mr. Carlisle will never forget the day he dislocated his leg while he was yachting and grimly directed some friends, who finally set the bone. Nor will he forget his recent election to the directorate of New York Edison, Consolidated Gas, and United Corporation, all in the same week. The first two dominate Metropolitan New York; United is the great Morgan holding company, and Mr. Carlisle is the head of Niagara Hudson Co. Thus in his person upper and lower New York State power has finally found connection, and the importance of Mr. Carlisle becomes national. Of the Utility Great he must be placed beside Sydney Z. Mitchell, Samuel Insull, and a very few others.

¶*James Cox Brady, born July 28, 1907, in Monmouth Beach, New Jersey; now of New York and Gladstone, New Jersey.*—The only son of the late James Cox Brady and now the head of his family, James Cox Brady has been elected a director of New York Edison to represent his family and its large interests therein. Only twenty-three, at the directors' table he will sit with such men as Matthew Sloan, Floyd Carlisle, George F. Baker, Percy Rockefeller, George Cortelyou.

¶*Felix M. Warburg, born January 14, 1871, in Hamburg, Germany; now of Manhattan and Hartsdale, N. Y.*—Perhaps the country's foremost lay Zionist, Felix Warburg, of Kuhn, Loeb & Co., was given in New York a dinner testimonial to his civic leadership and philanthropy. President Hoover, Mr. Coolidge, Bishop Manning sent tributes. Patrick Cardinal Hayes, Archbishop of New York, said: "A lively sense of the responsibilities and privileges of American citizenship, a staunch belief in the abiding mercy of God and a deep appreciation of the stewardship of God's gifts to man, and an intellect gifted with far-reaching vision of the needs of the community, together with splendid resourcefulness in marshaling the resources of the community to meet these needs—here is the basis of leadership that will command the respect and affection of all. Such leadership has Felix M. Warburg given to us, citizens of New York."

¶*Paul Moritz Warburg, born August 10, 1868, in Hamburg, Germany; now of Manhattan and Hartsdale, New York.*—Brilliant banker and recently the author of an exhaustive study of the Federal Reserve System, Paul Warburg, brother of Felix, last month witnessed in Manhattan the opening in Wall Street of the new building of his Bank of Manhattan.

¶*Walter Percy Chrysler, born April 2, 1875, in Wamego, Kansas; now of New York and Great Neck, and Bernice, his daughter, Walter Jr., and Mrs. Chrysler.*—One-time grocery clerk, then machinist, Mr. Chrysler last month saw opened in Manhattan his Chrysler Building, tallest building in the world, a splendid glittering tribute to a fortune made in automobiles. His daughter, Bernice, has equal cause for remembering this year, since in January she married Mr. Edgar W. Garbisch. Walter P. Chrysler Jr., Dartmouth freshman, this year distinguished himself by issuing with some friends the most luxurious U. S. college publication, *The Five Arts* ($5.00 for the first three issues).

¶*Seymour Parker Gilbert, born October 13, 1892, in Bloomfield, New Jersey; now of Bloomfield.*—In 1921 Mr. Gilbert, when he was only twenty-nine, was given by Mr. Mellon the specially-created position of Under-secretary of the Treasury. Since then he has constantly been hailed as one of the country's brightest young men. He returns to America now, having achieved international fame as Agent General for Reparations Payments under the Dawes Plan.

¶*William Shatov, born sometime, somewhere, in Russia; now of Leningrad.*—Agitator, anarchist, William ("Wild Bill") Shatov passed a turbulent early life in Chicago. He returned to his native Russia when the Revolution was declared. His and Soviet Russia's greatest industrial feat was the completion of the Turkestan-Siberian Railroad (the Turk-Sib) a year ahead of schedule. Costing nearly $100,000,000, Turk-Sib's 1,475 miles of track are of incalculable importance to Russia.

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GREATEST ORCHESTRA, GREATEST CONDUCTOR, THE ARTISTIC NEWS OF THE YEAR

Toscanini Leads an American Enterprise to Triumph and a Deficit

WHEN the Philharmonic left New York in April, it was rather slightingly said that its tour could in no way be counted an American enterprise. Conductor Arturo Toscanini is an Italian. He plays no American music in Manhattan, intended to play none in Europe. A census of his men had been inspired by President Hoover after a winter concert in Washington. Instead of the usual effusive congratulations Mr. Hoover asked Toscanini how many of his players were Americans. The conductor, surprised, admitted he did not know; it developed that of the 114 players, only thirty were born in the United States. Twenty-nine came from Russia, thirteen from Italy, ten from Germany, and the rest from everywhere.

But those who denied the Philharmonic its nationality overlooked a most important factor: the money needed to support such an orchestra. Despite sold-out houses at every concert, the annual deficit is a big one. Uncomplainingly the directors meet it, pay the highest conductor's salary in the world for the services of the greatest conductor. Their generosity made the European tour possible, for even with houses packed all along the way the loss ran upwards of $250,000. There was a pay roll of some $17,000 to be met each week. Steamship tickets alone cost $38,000. (The men paid for the transportation of thirty-eight wives and nine children.) There were 250 trunks, five for the tympani alone and four for music; 8,000 pounds of instruments insured at $146,000.

When the players arrived in Paris they were perfectly prepared with their Beethoven, Brahms, and Wagner; but they were not prepared for their reception. It surpassed the wildest expectations. There were cheers which shook the Opéra for twenty minutes after each number, press notices which unreservedly proclaimed the orchestra the greatest in the world, Toscanini the greatest conductor. Then began the triumphal tour. Vienna and Berlin also have famed Philharmonics, but the critics gave unhesitating preference to the visitors. For Toscanini their admiration was unbounded. And they singled out for particular praise such outstanding individuals as Concert Master Sapione Guidi; 'Cellist Alfred Wallenstein, fifth grand nephew of Hero W. von Wallenstein of the Thirty Years' War, who came from the Chicago Symphony at Toscanini's personal request; Violist René Pollan, whose playing is as distinguished as the great red beard which spreads proudly over his shirt front; Tympanist Saul Goodman, sleek young Brooklyn Jew who might have become a doctor and thus have deprived the orchestra of a magnificent drummer; Harpist Steffy Goldner, the only woman in the band.

The men considered that they gave their best performances in Paris and Leipzig. It makes little difference; everywhere enthusiasm ran riot. Kings and queens paid homage with the rest. The tour ended in London with Dame Nellie Melba leading the cheering at the farewell concert. A fitting postscript was a reception given Toscanini and his colleagues by Chairman Clarence Hungerford Mackay of the Philharmonic board of directors. Other directors, notably President Harry Harkness Flagler and an outsider, John Davison Rockefeller Jr., subscribed generously to the tour. But the enterprise was chiefly Chairman Mackay's, his the outstanding contribution.

MUSICAL MANAGER ARTHUR JUDSON

BOARD OF THE PHILHARMONIC

Few industrial corporations rejoice in a supply of directors more abundant than is vouchsafed the Philharmonic-Symphony Society of New York. The Philharmonic's board of twenty-five could be analyzed, thus:

Chairman Mackay (*silver and telegraph*), chief support.

Arthur Judson, chief U. S. manager of musical enterprises, including two orchestras (Philharmonic and Philadelphia), five smaller ensembles, the American Opera Company, and nearly fifty individual artists (Heifetz, Zimbalist, Martinelli, Iturbi, Horowitz, etc.).

Eight active, effective officer-directors: Harry Harkness Flagler (*oil and Florida*); Frederic A. Juilliard (*textiles*); Otto H. Kahn (*banking*); Marshall Field (*department store*); Paul D. Cravath (*law*); Henry Seligman (*banking*); Charles Triller (*bakers' supplies*); Richard W. G. Welling (*law*).

Sixteen interested, but not extraordinarily active directors, who attend meetings once or twice a year: Mrs. Vincent Astor, Nicholas Murray Butler, John W. Davis, Norman H. Davis, Anselme Fortier, Scipione Guidi, Mrs. E. H. Harriman, Frank L. Polk, Walter W. Price, Edwin T. Rice, Elihu Root, Charles H. Sabin, Nelson S. Spencer, Henry W. Taft, Maurice Van Praag, Felix M. Warburg.

HIS (CLARENCE H. MACKAY'S THE CHIEF CONTRIBUTION

This Month's Issue of Fortune

Is subjected to comment from the stock market angle.

(*By Carlton A. Shively of The New York Sun*)

VARIOUS groups of utilities, representing this, that, or the other "interest," such as Bonbrights, the Koppers (Mellons), Electric Bond & Share, Laderberg, Thalman, Schoellkopf, Carlisle, Associated Gas, Cities Service, have at various times held the center of the Wall Street stage. Usually the Electric Bond & Share group has been the acknowledged pace setter, and it is still in the race. But a new group is rapidly coming to the fore—the Morgan companies controlled by United Corporation.

United is selling comparatively cheaper than its constituent companies. It is valued in the market for less than its real liquidating worth at market prices of the stocks which it holds. The reason is that every time it makes an offer for additional U.G.I. or Columbia Gas stock or buys more of them or of Consolidated Gas in the open market, the floating supply of those stocks diminishes. Holders think of approaching "scarcity" value and say to themselves that another and perhaps more attractive exchange offer will be made later. Perhaps they are right but, in the long run, of course, the gravy will be found in the holding company, into which all revenues flow and which can make up in one direction what it may lose in another.

• • •

UNTIL last year when a Wall Street man was asked his opinion of the "coppers," he immediately thought of American Smelting and Refining. "Smelters" and the Guggenheims have been synonyms for the copper industry and the copper shares since time immemorial in Wall Street. Last year the position changed somewhat. John W. Ryan, head, heart, and soul of the great Anaconda group of mines and fabricating plants and Charles E. Mitchell, who runs what was then the biggest bank in the country, began to do things with Anaconda and the great bull market in the stock, which sent the price to a high of 174⅞, helped carry other coppers forward.

Anaconda's gain from the early price of the year was almost 50 per cent. That of the second largest producing unit in the industry, Kennecott, was more than 70 per cent. The long climb in Anaconda, Kennecott, and numerous other copper shares absorbed the speculating public's interest, to the neglect of the old time group leader, Smelters. For copper metal prices were moving up from twelve cents a pound to double that figure.

In all this hullabaloo Smelters was comparatively neglected. The company produces a large amount of copper and other base metals, but its principal profits come from refining. The big money last year, or so it seemed, was for the producers, which were operating at capacity and cleaning up. They all raised their dividends. Smelters stood pat. The stock went up, it is true, but less than the general market, the rise being from 97⅝ to 130¼, or only about 33 per cent.

If coppers were the market leaders of the spring of 1929, they were the tail-enders of the early months of this year. Dividend reductions have been general and market prices have melted to the lowest quotations in several years. Copper shares have been selling to yield from 8 to 15 per cent. Only two or three large companies are holding to their old dividend rates. American Smelters is one of them, paying $4.00 annually and selling currently to yield between 5 and 6 per cent, a yield which does not indicate much stock market apprehension of a lower rate. Smelters is resuming its old leadership in the copper group.

• • •

RAILWAY equipment stocks are losing their high standing in financial society. The evidence is not only in the stock market record, which may be written to suit the whims of any powerful operator. It can be found also in the investment ratings granted by the statistical services, which are law for a large body of investors.

Three years ago the excellent deportment of such companies as American Car and Foundry and Pullman had earned them an "A" on their report card. Baldwin Locomotive was bringing home a "B" pretty regularly. An "A" is awarded to stocks in the investment group with sound position and stability. The "B" grade is three steps down, showing expectation of regular dividends and moderate progress.

In 1928 Pullman was reduced one rung, to "BAA," where it has remained. In 1929, American Car and Foundry joined that class. This year A.C.F. dropped an "A," standing now at "BA." Baldwin chugs along with a "B," which happens also to be its symbol on the stock ticker.

Of the three, Pullman deservedly has the highest rating. It has rolled along steadily in the market since reorganization of its corporate structure, involving segregation of manufacturing and operating activities in 1927, showing a maximum range between 73 and 99¼. Its dividend record begins in 1874, the current rate being $4.00. As a holding company, Pullman derives its income from transportation as well as from equipment manufacturing, and there is no sign that Pullman passenger hauling is dying with railroad coach traffic. Gross revenues from this source were $1,500,000 higher last year than in 1928, reaching the second highest point in the company's history.

That there is compensation in sight, even for lost traffic, is indicated by David A. Crawford in his annual report. The older, less favorable car service contracts made with important railroads a decade or more ago, when operating costs were much smaller than they are now, are expiring. Pullman hopes, even expects, that new contracts can be made on a more favorable basis. Beyond this help there remains the possibility of legislating out of existence the railroad surcharge on Pullman tickets.

• • •

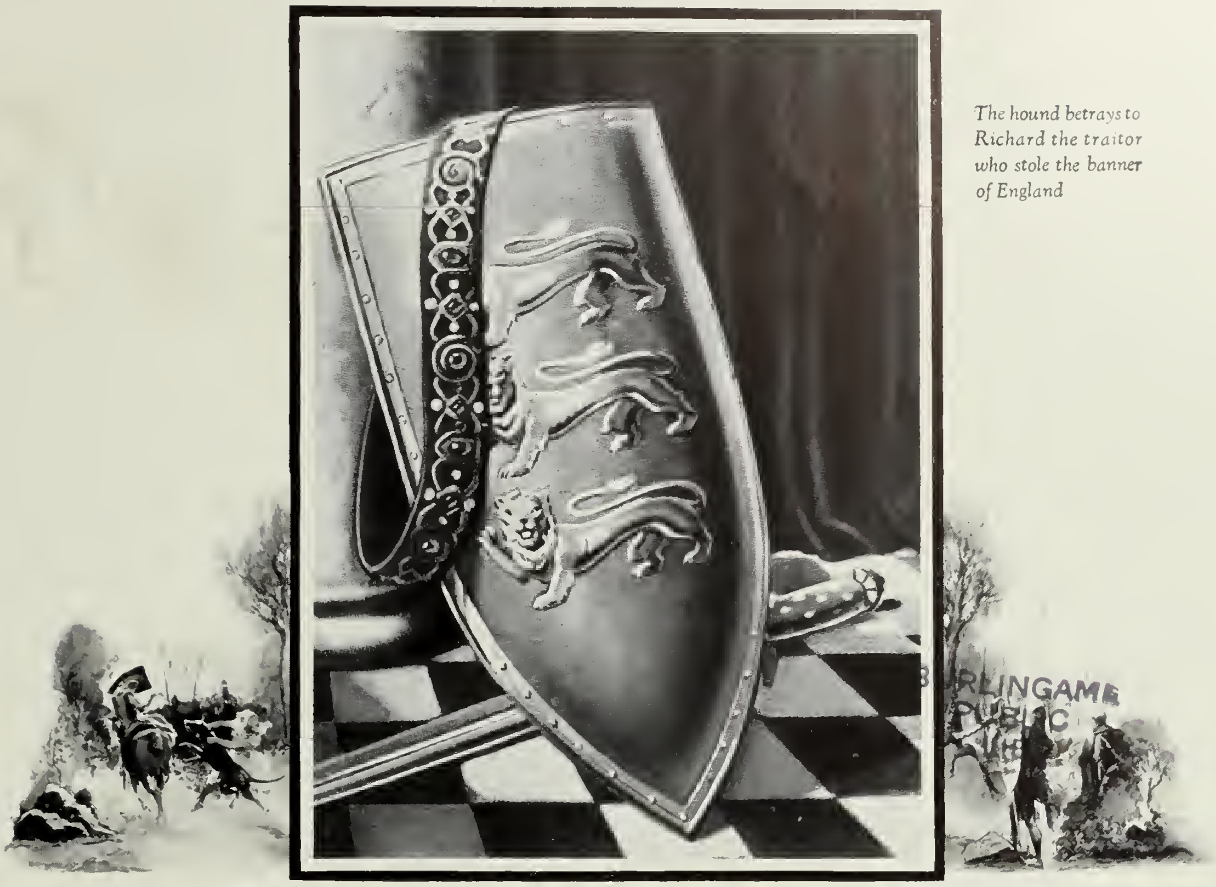
THE market fall of American Car and Foundry dates from 1925, when the record price of 115¾ (equivalent to 231½ on the old stock, split two for one) was set. Fluctuations were narrow in succeeding years, but the mean worked slowly lower. From a low of 75 last autumn, the stock reached a high of 82½ this year.

A yield of more than 11 per cent on the stock at its price on the date of the last dividend declaration showed Wall Street's idea of the permanence of the $6.00 rate. In spite of the diversification of products already undertaken, William H. Woodin apparently has not discovered yet what course the largest equipment manufacturer in the world is to lay.

• • •

BALDWIN Locomotive last year changed from a rich man's stock to a poor man's gamble. The Fisher Brothers' buying campaign in 1927 and 1928, carrying the stock almost to $300 a share, was embarrassing, to say the least, to the shorts who knew earnings and thought they knew the market. Somebody must have laughed bitterly in 1929, when the stock crashed from a high of 271 to a low point of 60 (actually $15 a share on the new stock resulting from the four-for-one split).

Although four or five years ago the equipments were well recommended by investment counselors, a tally of investment trust holdings shows A.C.F. and Westinghouse Air Brake appearing only three times, American Brake Shoe four, Pullman and General Railway Signal eight, and General American Tank Car twelve in a list of more than 75 portfolios. Baldwin is missing.



The hound betrays to Richard the traitor who stole the banner of England

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Shield of Richard. Painted by Ludwig Gassner

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Electric Light & Power: 1920-1930

[*Continued from page 104*]

small companies under merger, the replacement of other securities with lower priced money, in addition to the regular maturities. Summarizing, the annual investment increment has been $500,000,000 per year for the first five years, and $640,000,000 per year for the remainder of the period under discussion.

About a quarter of the money involved in expansion and refinancing of the electric light and power industry in the past ten years has come from the company sales of stock, both common and preferred. Not many companies have offered common stock, except those having but one stock classification, however. The recognition by the investor of the stability and essential character of the industry applies not only to the individual buyer of securities, but many organizations have taken large pieces. Insurance companies have invested millions; educational institutions are using power and light securities for endowment purposes; and now that savings banks are being given an opportunity to invest in them the demand is large and new money costs relatively much less than ten years ago.

The curve at the top of the sheet, Figure V, gives the average yield of power and light securities marketed by investment houses for the past ten years. The figures for 1920-24 are the weighted average of all power and light securities handled by these institutions, based upon the amount of issue, the rate, and the selling price. The figures are: 1920—7.7 per cent; 1921—7.3 per cent; 1922—6.24 per cent; 1923—6.34 per cent; and 1924—6.23 per cent. There has been a gradual decrease since January, 1925, so that the average yield for 1925-29 has been between $5\frac{1}{2}$ per cent and $5\frac{3}{4}$ per cent.

Figure VI is presented. Gross revenue for 1929 was $2,150,000,000. In 1920 it was $882,750,000. The increase of $1,267,250,000 accompanied an added investment of $5,700,000,000. The ratio of added investment to increase in annual revenue of 4.5 is quite satisfactory when compared with a total investment and total revenue ratio of 4.9 for 1918, 4.65 for 1920, and 4.55 at the end of 1929. And this accompanies a decrease from 3.03 cents per KWH in 1920 to 2.79 cents in 1929 for all energy sold by power and light companies in the United States. It means a power bill of $185,000,000 less for 1929 than would have been required under the average rate of 1920, an amount sufficient to pay the interest on $3,000,000,000.

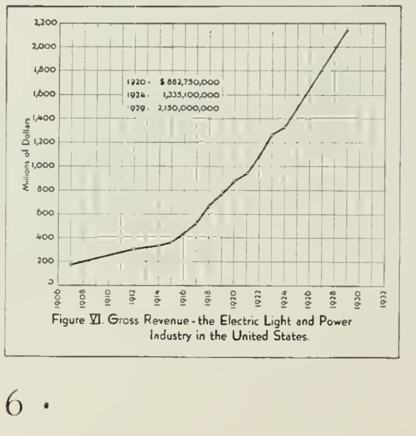

Figure VI. Gross Revenue - the Electric Light and Power Industry in the United States.

In this connection it is interesting to note that according to the U. S. Bureau of Labor index of the cost of living, retail electricity is the only commodity that is below and has continuously remained below the 1913 level since that date. And this condition has existed while all other commodity classifications have been from 30 per cent to 185 per cent above the 1913 base during the 1920-30 decade.

Operating ratios have shown little change over the period. Slightly less than 50 per cent in 1920 for the entire country, a gradual increase to $52\frac{1}{2}$ per cent in 1924 was recorded. Since then the figure has at times gone several per cent below 50 but the ten-year average is close to 50 per cent. This compared with the added investment, increased gross revenue ratio, is one index of the stability and financial soundness of the industry. The net income ratio has therefore remained fairly constant through 1920-29. With judicious commission regulation, about the only changing influence upon this at any time can be a raising or lowering of the price of money.

The aspect of the power and light industry on the whole is one of a vast beneficial agency, selling its product lower than that of other comparable services, well managed, soundly financed, and presenting a conservative and stable offering to the investor.

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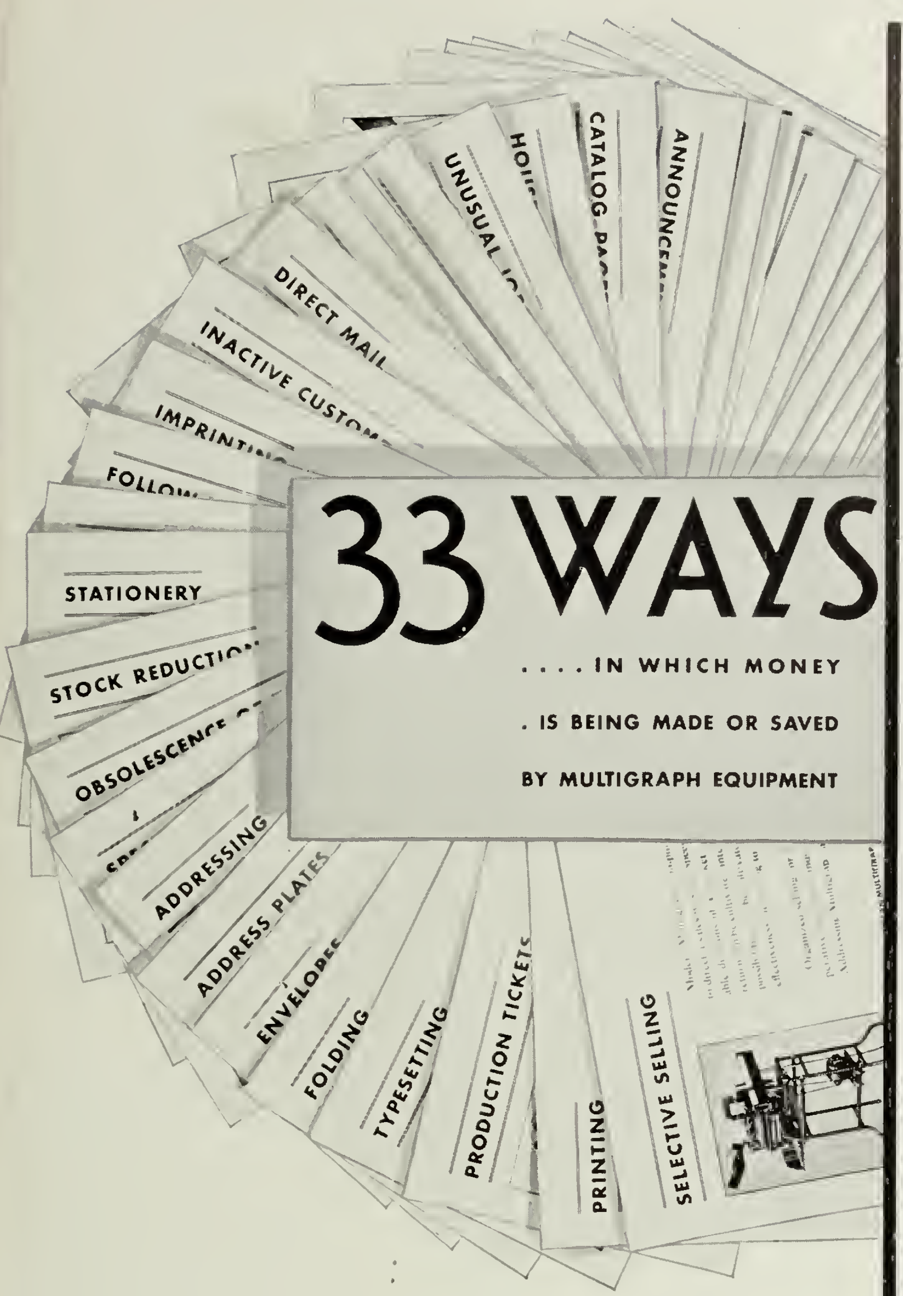
Public ownership, regulation, and public relations

Public ownership of utilities, a live issue in many political campaigns during the past decade, has perhaps been discussed more than during any other ten years of our history. It found little support during the presidential campaign of 1924. California and Washington went on record with decisive rejection of public ownership bills, and Chicago voters defeated the proposal for municipally owned surface and elevated lines. On the other hand, Detroit early in the decade purchased her street railway system and has operated it for about eight years. The advocates of public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ownership point to government operation in other countries, to our own municipally owned water works systems, and to our municipal electric light and power utilities which are operating with varying degrees of efficiency and satisfaction. Private ownership supporters are those who are justified in their belief that the efficient business organization, such as that of the power and light companies, can best serve them and the country with the electric necessity. This discussion will not be a brief for either municipal or private ownership—there is but one way that the electric light and power industry could have developed and can develop in the future to render the service that it must continue to furnish, and that is not public ownership.

The number of municipally owned electric light and power plants has increased slightly in the past ten years, but the production is less than 5 per cent of the nation's total. Many old municipal systems have been purchased by companies who now supply continuous and reliable service. The new plants that have been built by cities are, as a rule, good engineering jobs, well operated, and take care of the needs of the community with fair satisfaction.

However, the best of the municipal systems, other than distribution works, do not and can not fit in with any interconnection of superpower plant. The operation of municipal electric light and power systems in a manner to promote national conservation of fuel and waterpower resources cannot in any way be compared to the satisfactory operation of municipal water utilities. The water utility is confined to one comparatively small community. Electric light and power lines extend over state boundaries.

Our national government's few business ventures have not proven particularly successful. Many of the state attempts to enter business have been more disastrous. It does not seem likely that public ownership of the electric light and power industry will be experimented with in a big way. Our present plan of customer ownership of stocks and bonds, with continued fair regulation by commissions, is going to remain intact.

The Interstate Commerce Act was passed in 1887. It has been amended at various times since. After 1906 the Interstate Commerce Commission had very wide regulatory powers. Perhaps there was too much regulation; however, unbiased students assert that governmental control of some roads was well deserved. That is not a matter for discussion here. The majority of the state bodies having more or less jurisdiction over steam railroads followed the Interstate Commerce Act of 1887.

The formation of agencies having regulatory power over the power and light industry has come about in the reverse order, first the state public utility commissions, and the national body, Federal Water Power Commission, not until 1920.

The Federal Water Power Commission exercises jurisdiction over a part of the power and light industry in that there are comprehended by the Act supervision of development, capitalization, rate making, and service to a certain degree, at all hydroelectric sites on lands of the United States and on navigable and international boundary streams. Jurisdiction over waterpower for any purpose whatsoever is included, but much the greater part of the development has been and will be by the power and light industry. Eighty-five per cent of all of the available waterpower of the nation is affected.

That a license of fifty years' duration and that the provisions of the Act are considered reasonable is indicated in a material way by the results of ten years' operation. In the first five years, plants with a total capacity of 597,000 horsepower were completed or under construction. Licenses for construction and preliminary permits had been issued up to 8,460,000 horsepower. In the second five years, additions to the country's central stations in plants completed and under construction exceed 2,500,000 horsepower.

The Water Power Act provides for state regulation either by the commission or by state agencies. The states have had the necessary regulating bodies and in most cases have exercised the regulating power over rates and service. There have been proposals in the last ten years tending toward some sort of national body with jurisdiction over the entire light and power industry. Need for federal regulation, other than that of the Federal Water Power Commission, does not exist. State regulation is now superior to any other kind. And home rule, so called, has not given and can not give the public and the utility the uniform judicial treatment that the state commissions generally have given and will give.

In 1923 all but eleven states had bodies with unqualified jurisdiction over the privately owned power and light industry. Included were valuation for rate making, rates, service, and, in most cases, capitalization. Four of the remaining states had limited jurisdiction, and seven had no state regulation whatsoever. The total production of electrical energy of the seven amounted to less than 4 per cent of that of the nation. The one with the largest production of the seven has now extended the powers of the commission which then existed to include the electric light and power industry.

Valuations and rates have been the most important of the state commissions' duties. Before the World War the problem of determining an index of value was not the complex one that it became in the first half of the 1920-30 decade. Cost of reproduction based upon costs over a period of five or ten years was quite generally accepted as a starting point. Price changes seemed to upset that. In 1920 we were much at sea as to a proper price basis to be used for appraisal purposes. Engineers submitted estimates founded upon several sets of prices. Recommendations were made pro and con. But all came back to the historic Smyth vs. Ames case.

Mr. Justice Hughes in the Minnesota Rate Cases stated:

> "The basis of calculation is the 'fair value of the property, used for the convenience of the public.' (Smyth vs. Ames, 169, U. S. 546). Or, as it was put in San Diego Land & Town Co. vs. National City, 174, U. S. 757: 'What the company is entitled to demand, in order that it may have just compensation, is a fair return upon the reasonable value of the property at the time it is being used for the public.' . . . The ascertainment of that value is not controlled by artificial rules. It is not a matter of formulas, but there must be a reasonable judgment, having its basis in a proper consideration of all relevant facts."
>
> (Simpson vs. Shepard, 230, U. S. 434)

How should that value be determined? And also in the Minnesota Rate Cases:

> "As the company may not be protected in its actual investment, if the value of its property be plainly less, so the making of a just return for the use of the property involves the recognition of its fair value if it be more than its cost. The property is held in private ownership, and it is that property, and not the original cost of it, of which the owner may not be deprived without due process of law."

Then coming to the first decision after the War:

> "It is a matter of common knowledge," said the Supreme Court in the Lincoln Gas Case (250 U. S. 246), "that, owing principally to the World War, the costs of labor and supplies of every kind have greatly advanced since the ordinance was adopted, and largely since this case was heard in the court below."

On May 2, 1923, the Supreme Court stated in the Southwestern Bell Telephone Case (262 U. S. 276):

> "It is impossible to ascertain what will amount to a fair return upon properties devoted to public service, without giving consideration to the cost of labor, supplies, etc., at the time the investigation is made. An honest and intelligent forecast of probable future values, made upon a view of all the relevant circumstances, is essential. If the highly important element of present costs is wholly disregarded, such a forecast becomes impossible. Estimates for tomorrow can not ignore prices of today."

But Mr. Justice Brandeis, in the Georgia Railway and Power Case (262 U. S. 265), June 11, 1923, takes us back to the Minnesota Rate Cases and indirectly to Smyth vs. Ames:

> "The refusal of the Commission and of the lower court to hold that, for rate making purposes, the physical properties of a utility must be valued at the replacement cost less depreciation was clearly correct. As was said in Minnesota Rate Cases, the ascertainment of that value is not controlled by artificial rules. It is not a matter of formulas, but there must be a reasonable judgment having its basis in a proper consideration of all relevant facts."

These extracts from decisions of the highest court of the land are quoted to better present the problem before our public utility commissions at the beginning of the decade. Testimony before them has been conflicting as opinions will ever be. Readjustment of thought by the public, the commissions, and the companies to properly measure changed conditions was difficult. On the whole one cannot be other than impressed by the fact that "reasonable judgment" has been exercised.

There were many appeals early in the decade. As business conditions gradually became more stable and a somewhat firmer price level established, these appeals have not been numerous. The tendency in fixing value now is to give considerable weight to current prices. It appears that there is hardly an alternative when such a large share, around 70 per cent, of the investment in the power and light industry represents construction since the War-time high price period began.

It has taken years to clear up confusion that resulted from a misapplication of the term depreciation. Primarily depreciation means loss of value. The word has been applied to the allowance for replacement or renewal as used in accounting and to loss of service life as used in engineering practice. Neither of the two usages of the term necessarily implies loss of value.

The longevity theory is being rejected as a measure of value of public utility property. The property is a continuing thing. It was never built to remain new, but to give

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Modern Business demands it. Progress requires it. Notable success is pure luck without it. It discards old standards of accomplishment; exacts a double yield from the soil; opens the skies to traffic, and turns manual labor over to machines. It urges men to use their brains. Its presence commands the highest premium.

Modern Accountancy inspires and develops Resourcefulness in men. With its enlightened application of facts and figures, its Budget, its System, Method and Order, it *makes men see* the possibilities which lie in their world of undeveloped resources.

ERNST & ERNST

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YOUNGSTOWN

service, and as long as it gives 100 per cent service its value remains intact. In one of the best discussions of the subject, Mr. Justice Moody said in 1909 (Knoxville vs. Knoxville Water Co. 212 U. S.):

> "It (the company) is entitled to see that from earnings the value of the property is kept unimpaired . . ."

Even so, some of the so-called public utility experts have vigorously supported the idea that age and loss of value are almost directly proportional.

Fortunately our commissions and courts, in the past five years more than ever before, have held that only in the case of inadequacy of maintenance and replacements is there loss of value and that such loss of value is measured by the expenditure in money that would be necessary to restore the property to a normal operating efficiency.

Our commissions and courts have had difficult problems in the consideration of valuations and rates. These have been handled with judicial fairness. The regulating bodies are to be commended for their assistance in making available to the public a beneficial service such as that of the electric light and power industry.

Interconnection and superpower

Early in the decade, when the first 220,000 volt transmission line had proven successful in operation, predictions of transcontinental lines at this or higher voltages were common. As yet we haven't them. Perhaps they will not exist in the near future. The public's conception of superpower has included such an interconnection plan. It is true that we have the means at hand to bring mountain states hydroelectric energy to the upper Mississippi and Great Lakes industrial districts. Constant potential lines at 220,000 or 330,000 volts would do it. But the losses coupled with the great investment necessary for these lines have made it cheaper to haul fuel to our steam plants. Whether or not this course is the best for America's future only developments of that future can tell. Immediate utilization of all available waterpower and conservation of fuel seems better, but as a business project, under the conditions of the past decade and probably for some time yet, long line transmission, above 250 to 300 miles, is not economically justified.

Superpower developments of the past ten years have then not consisted of the building of huge mine mouth steam plants or out of the way waterpower stations with long transmission lines. Rather they have been the interconnection of independent systems, isolated plants, and the unification of districts or zones.

There has come about a closer coöperation between companies operating in adjoining territories, and many consolidations have been made. In 1924 alone, mergers took place in sufficient number to reduce the operating companies about 325. Compare this figure of one year with an average of about ninety per year from 1917 to 1922, as indicated by an analysis of figures of the U. S. Bureau of the Census. As the result of the coöperation and mergers and within the districts which are becoming superpower zones, many benefits are already evident. A better utilization of waterpower, particularly if on different water sheds, is being brought about; the load that could be carried on formerly separate systems has been increased by relatively diminishing peaks; operation is becoming possible with less reserve equipment; all of these tend toward a better capacity factor and conservation.

Superpower was no new thing to the power and light industry when it began to receive wide public attention some eight or ten years ago. Engineers and company executives had for years been making plans to that end. Many of the economies that could be realized were known. But it is safe to say that except in few sections had the construction programs been such as to accomplish much until the present decade.

BURLINGAME PUBLIC LIB.

The studies involved by such investigations as the Superpower Survey of the Washington-Boston District, a coöperative investigation between our national government and the utility companies of the region (incidentally the first introduction of superpower to the public); the Transmission Committee of the Empire State Gas and Electric Association; the Superpower Committee of the Pacific Northwest; Power Survey Committee of the Great Lakes Division, N. E. L. A.; Giant Power Survey of Pennsylvania; together with several comprehensive private investigations marked steps of utmost importance in a national power program. These took place in the first half of the decade. Up to 1925 but one study of the entire United States had been presented to the public. This, a personal contribution, dealt largely with the transmission problem.

Early in the second half of the decade the coördination of results of all district surveys up to that time and the formulation of a complete national plan was started. In this the National Electric Light Association has had the coöperation of the United States Government, state governments, its members, and such vitally interested industries as the electric railways, steam roads, and others. There is resulting a comprehensive power plan for America.

Most advantageous locations for large steam plants are pointed out. Order of development of waterpower is suggested. Standardization

GOOD NIGHT

The Book-Cadillac Hotel
DETROIT

Good night

This is a story about the cost of *sleep*, sweet and restful *sleep* at the Book-Cadillac Hotel. $3.00 is the lowest rate, and, there are 100 rooms at that price. There are a hundred more at $3.50 per day. There are nearly 250 others at $4.00 and 150 at $4.50 and more than 200 at $5.00. Beautiful sample rooms, light, airy, large and convenient range from $5.00 to $8.00. The balance of the 1200 rooms, single and en suite, range from $6.00 to $32.00 daily. So, note it in your memory: the great majority of our rooms are $3.00, $4.00 or $5.00 a day. ' ' ' ' ' Five restaurants suit your need or whim or purse. Two are inexpensive; three are higher; both serve the same food prepared delightfully, appetizingly by world famous Garces, great Book-Cadillac Chef. ' ' ' ' ' So, even though the food and the service and the beds are superlative, *prices are not high*, never have been, never will be. *Good night.* See you soon.

The
Book-Cadillac
Hotel

ON WASHINGTON BOULEVARD
THE STREET OF FINE SHOPS
DETROIT

CARL H. SNYDER
MANAGING DIRECTOR

A Personal Invitation to Hotel Hollenden

THE Hotel Hollenden is ideally located for the convenience of the visitor whether he is in Cleveland on business or pleasure. Within a block or two of the Hollenden will be found the leaders in practically every activity of the city. Just a block or two away are the theatres, the shopping centers, the banks, the Public Auditorium and the principal office buildings. Located right in the heart of things, the Hollenden has for decades served the requirements of the most discriminating visitors. Anything that is required of a good hotel may be found at the Hollenden. You are cordially invited to make the Hollenden your home when you are away from home. The Crystal Dining Room and the Hollenden Coffee Shop offer a variety of good eating places.

Sincerely yours,

Vice Pres. & Gen. Mgr.

In Cleveland-it's The
HOLLENDEN
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Vice Pres. and Gen. Mgr.

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Banishes Loops and Gadgets

INSIDE MEASUREMENTS
$ 6.00 size 8⅝ x 3⅞ x 1⅞
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Name or initials embossed on lid, 25c extra.

Thousands adopting this new and better kit originated by Hamley

At last—a "travel-wise" toilet kit. A hand-made case of thick solid leather. No loops or gadgets or monkey-business! You just toss toilet articles in . . . that's all there is to it. Everything is together, ready for instant use.

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At exclusive shops or postpaid direct from HAMLEY & COMPANY, *Saddlemakers since 1883*, 371 Court St., Pendleton, Ore.

*Be sure you get the genuine Hamley, with this mark tooled on bottom.

The HAMLEY KIT

The **HAMLEY KIT**

MADE LIKE A FINE COWBOY SADDLE OF GENUINE *Solid Leather*

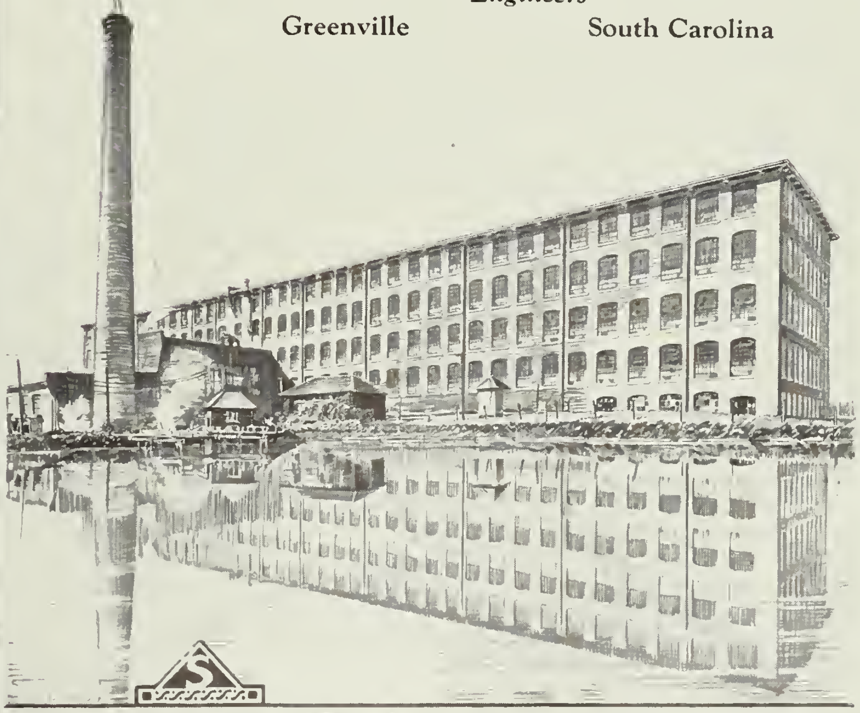
Reflected in Chiquola's Record — Modernization as a *fixed* Policy

IN the annals of the Textile Industry few cotton mills have achieved a sustained record of profitable operation more noteworthy than that of Chiquola Manufacturing Company at Honea Path, S. C.

The uninterrupted dividend record of this mill reflects a definite policy of keeping the mill constantly up-to-date in every feature:—equipment, power application, management, labor relations.

This organization of Engineers, in its early days nearly thirty years ago, planned, designed and supervised construction of this cotton mill. The intervening period has been a record of constant co-operation with its client in helping the plant to an ever new peak of productive efficiency.

J. E. SIRRINE & COMPANY
Engineers
Greenville South Carolina



of voltages and frequencies is covered. On the whole, the study has as its object the formulation of a complete plan for maximum utilization of waterpower, conservation of fuel, economical use of electrical energy, and a reliable and constant power and light service at a low cost. But these items are not all. This work of comprehensive planning and coördination is justified in a prosperous nation like ours if for no other purpose than that of National Defense.

An attempt has been made by Figure VII to indicate regions of interconnection. Some are now largely interconnected within the section, but only a few equipped as yet for more than emergency transfer of power between districts. Upon the character of the loads of adjoining sections depends the justification for large capacity lines between them. If a lighting load in one can be balanced by an industrial load of another, then the interchange of power will make less generating equipment necessary and improve the load factors.

California was the first state to become largely interconnected, and it now has the highest capacity factor of any region, better than 50 per cent. The waterpower district of the South Atlantic States was a close second. The New England and Middle Atlantic sections are working out their part of the comprehensive plan. The industrial districts of the East North Central States have made good progress. A part of the West North Central section is well tied together, but municipal ownership in some parts of that section has handicapped its progress. Ultimately we shall have all power companies within a region or zone either consolidated or working as one unit in the production and distribution of electrical energy. That will be accompanied by contact points between the zones, in some cases for interchange of rather large quantities of power, but as a rule for emergency service only.

Superpower has its start; it is here. Its results are becoming tangible in dollars and cents and in a uniform and constant service. It calls upon the best talent of the branches of finance, engineering, commerce, public relations, and governmental coöperation for its highest development, most judicious control, and maximum service to maintain the standard of living, promote the prosperity, and insure the National Defense of America.

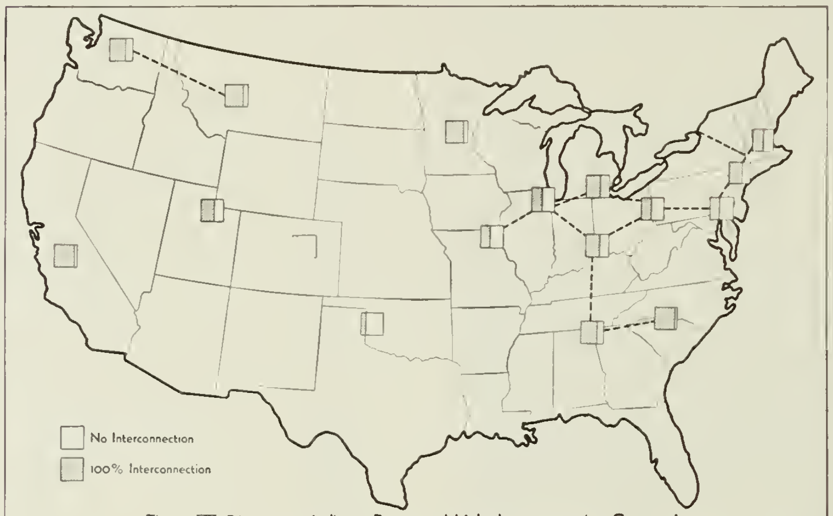


Figure VII. Diagram to Indicate Power and Light Interconnection Centers in the United States, 1930

WHAT IS NITROCELLULOSE?

The question above can not be more adequately answered here than by citing a few of the many purposes for which nitrocellulose is used. ¶It is the base of modern lacquers for wood, metal, plaster, fabrics and other surfaces. These lacquers impart a remarkably tough, waterproof film that is highly resistant to scratching. They save millions for industry in time and storage space, because they dry so quickly. A lacquered surface is easy to wash and clean. ¶Solutions of nitrocellulose are used to seal containers, to waterproof textiles, and to give them a silk-like sheen. They are powerful adhesives and are used to stiffen fabrics as in box-toes. ¶New uses are constantly being discovered. Consult whoever supplies your finishing materials about lacquers. "The Story of Modern Lacquer" is a booklet that may suggest a profitable new use to you. Please write for a copy. >

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Cotton Cellulose — Naval Stores

Landscape Work
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By Hand—Not Acid

H. STANTON

Garden and Lawn Specialist

SOUTH HAMILTON, MASS.

Send for Circular and excellent endorsements

This beautiful "Lincraft" Post-and-Rail Fence— 11 ft. rails, 65 cents each; posts 95 cents and $1.00 each

Send for "The Book of Fences"

describing Lincraft Rustic Fences, as installed on some of America's most beautiful estates and suburban properties. The Lincraft Line includes Post-and-Rail, English Hurdle and Woven Fences, both hand and machine, sturdily constructed of seasoned, weather-resisting woods. A Lincraft Fence requires no painting, and age only adds to its beauty. It is economical in first cost, installation and up-keep.

LINCRAFT
RUSTIC FENCES

NEW JERSEY FENCE COMPANY
34 LOGAN AVE. BURLINGTON, N. J.

You may be hooking, you may be slicing, your putting may be as erratic as a left-handed earthquake — but if you are playing the Silver King you can be dead certain it isn't the fault of the ball.

PLAY THE
Silver King
85¢
SILVER KING
3

THE KING O' THEM ALL

JOHN HANCOCK SERIES

A Financial Leader

William V. Lindblom
in the
Magazine of Wall Street
says . . .

that the stability and happiness of the home depends on the care with which the financial plan is worked out and followed.

Said this experienced adviser, there is but one way for a young man to provide for his family against premature death, that is, by life insurance. While no rule can be the same for all, said Mr. Lindblom, ten percent of annual earnings might well be laid aside in the average case.

Your life insurance program, therefore, is an important item in your life and that of your family. Let us talk this over with you, or write for our booklet, "This Matter of Success."

INQUIRY BUREAU

John Hancock
MUTUAL
LIFE INSURANCE COMPANY
OF BOSTON, MASSACHUSETTS

Fr.

Over Sixty-Seven Years in Business

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Callisthenes on Fortune

[In The TIMES, (London) Selfridge & Co. publishes daily an editorial "Reflecting the policies, principles, and opinions of this House of Business upon various points of public interest". The Selfridge editorial for May 13, 1930, signed by Callisthenes, was headed *The Voice of Commerce.*]

"FOR a long time commerce was without a voice of its own. Every now and again there would be someone outside, a statesman or a scholar, who would say fine, true, informative things about commerce and industry. But he would turn soon afterwards to other things and the old silence would fall upon the active economic life of the nation.

"This was a defect in the national life. It was not good that the nation should know so little about how things were produced and marketed. What is not heard about is often misunderstood and underestimated. There were signs that these faults could be noticed in the ordinary man's view of commerce and manufacture.

"It was also not good for business that it should have no effective organ of self-expression. Self-expression is a powerful aid to self-development. . . .

"We have often in this column expressed admiration for the English trade journals. At the moment we are thinking of a new American journal, 'Fortune.'

"How satisfying it is to see business pictured and expressed as it is in 'Fortune'! It has been designed, written, and illustrated by men who have refined and enriched their perceptions in commerce as the artist has in colour and form, as the musician has in sound.

"There is not a picture even among the advertisements which has not something of beauty in it. Nor is it the beauty of fake and elimination, but the beauty of accuracy and inclusion. There is an article on a paper company in which the pictures of Canadian forests in the snow are such that the eye delights to linger on them, but no less full of creative vision, of the subtle allurement of exquisitely balanced light and shade are the pictures of the machinery which turns the pulp into paper.

"There is an article on gold in which the picture of the golden peacock throne of Persia has not more essential beauty in it than a photograph of a workman making Rumanian coins at the British Mint.

"And so with all the articles. They are written by those who have the commercial vision, who can see the interplay of great human and national forces in the development of dominant business houses, who can give commerce and industry self-expression worthy of their place in the modern world. . . ."

Fortune

By Subscription Only—Ten Dollars the Year

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350 East 22nd Street
Chicago, Illinois

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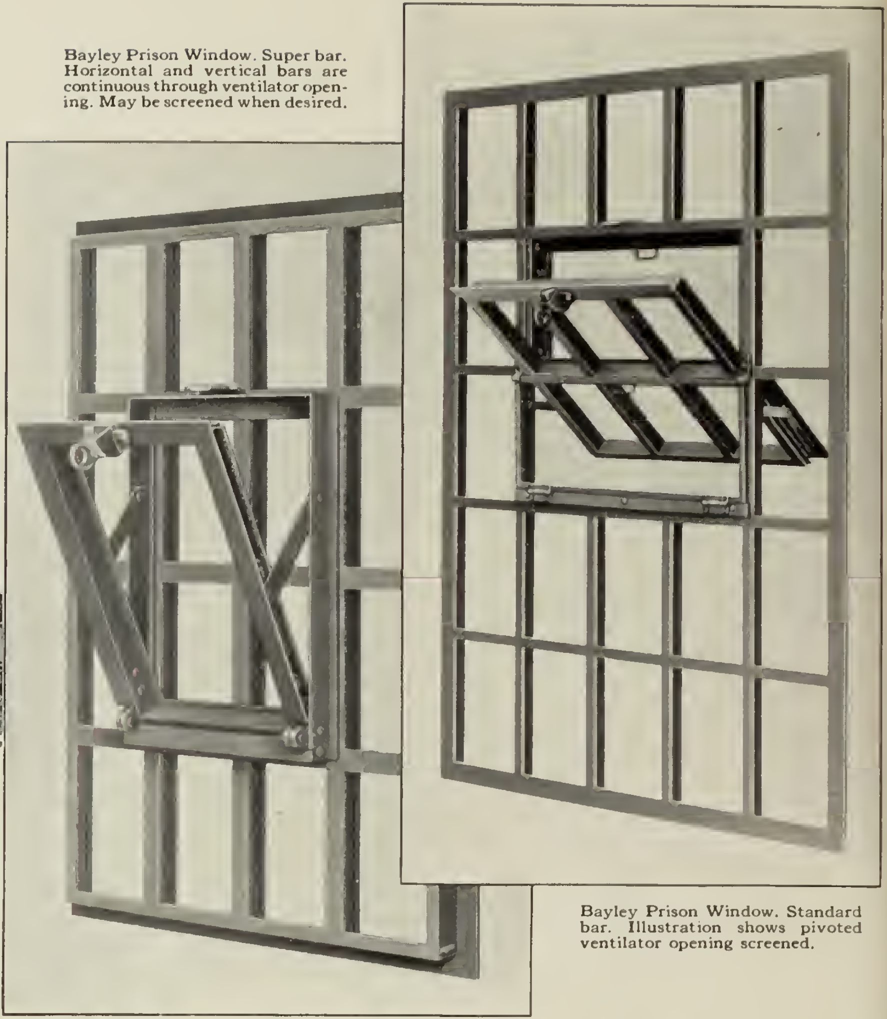
Name ....

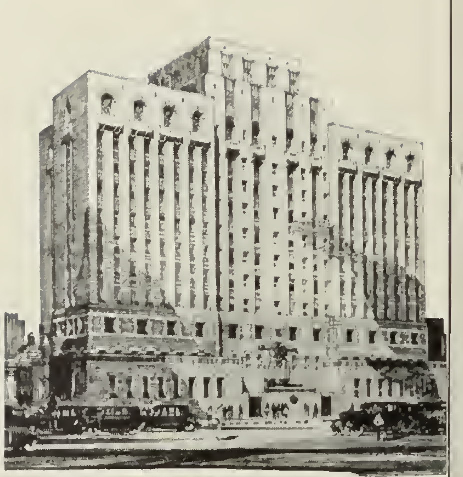
Street ....

City .... State ....

Bayley Prison Window. Super bar. Horizontal and vertical bars are continuous through ventilator opening. May be screened when desired.



Bayley Prison Window. Standard bar. Illustration shows pivoted ventilator opening screened.



New York City's House of Detention for Women, equipped throughout with Bayley Prison Windows Screened. Architect, Benjamin W. Levitan. Associate Architects, Sloan & Robertson. Contractors, Psaty and Fuhrman, New York.

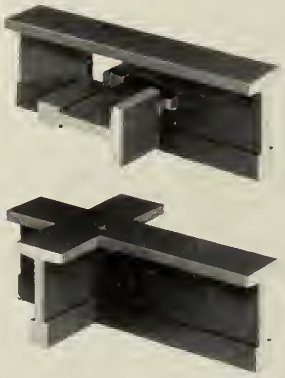
The answer to a pressing need..

BAYLEY WINDOWS *for* Penal Institutions

IN developing windows for penal institutions, Bayley has again pioneered. This organization — composed of engineering and other well-balanced talent—reviewed the conditions and anticipated the present emergency. As a result, Bayley's offering in prison windows adequately meets the present needs.

Cooperating with prison architects and prison officials, these windows have been designed to give an abundance of light and ventilation, and yet are as nearly escape-proof as modern steel construction can make them. They make outside bars unnecessary, and do away with the jail-like appearance of the buildings.

A nation-wide program of new prison building is getting under way. Prison board officials and architects who are interested in prison construction are invited to avail themselves of Bayley's helpful engineering cooperation — based on more than forty-nine years of practical experience. Your request for further information will have our prompt attention. The William Bayley Co., 148 North Street, Springfield, Ohio.



This illustration shows Bayley Super Bar intersection, one third actual size.

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Boston, 5 Park St.
Chicago, 75 E. Wacker Drive
Cleveland, 449 Terminal Tower
Washington, 1427 I St., N. W.
Atlanta, 407 Bona Allen Bldg.
Springfield, O., North St.

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STEEL WINDOWS & DOORS

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Fortune

One Dollar a Copy AUGUST 1930 Ten Dollars a Year

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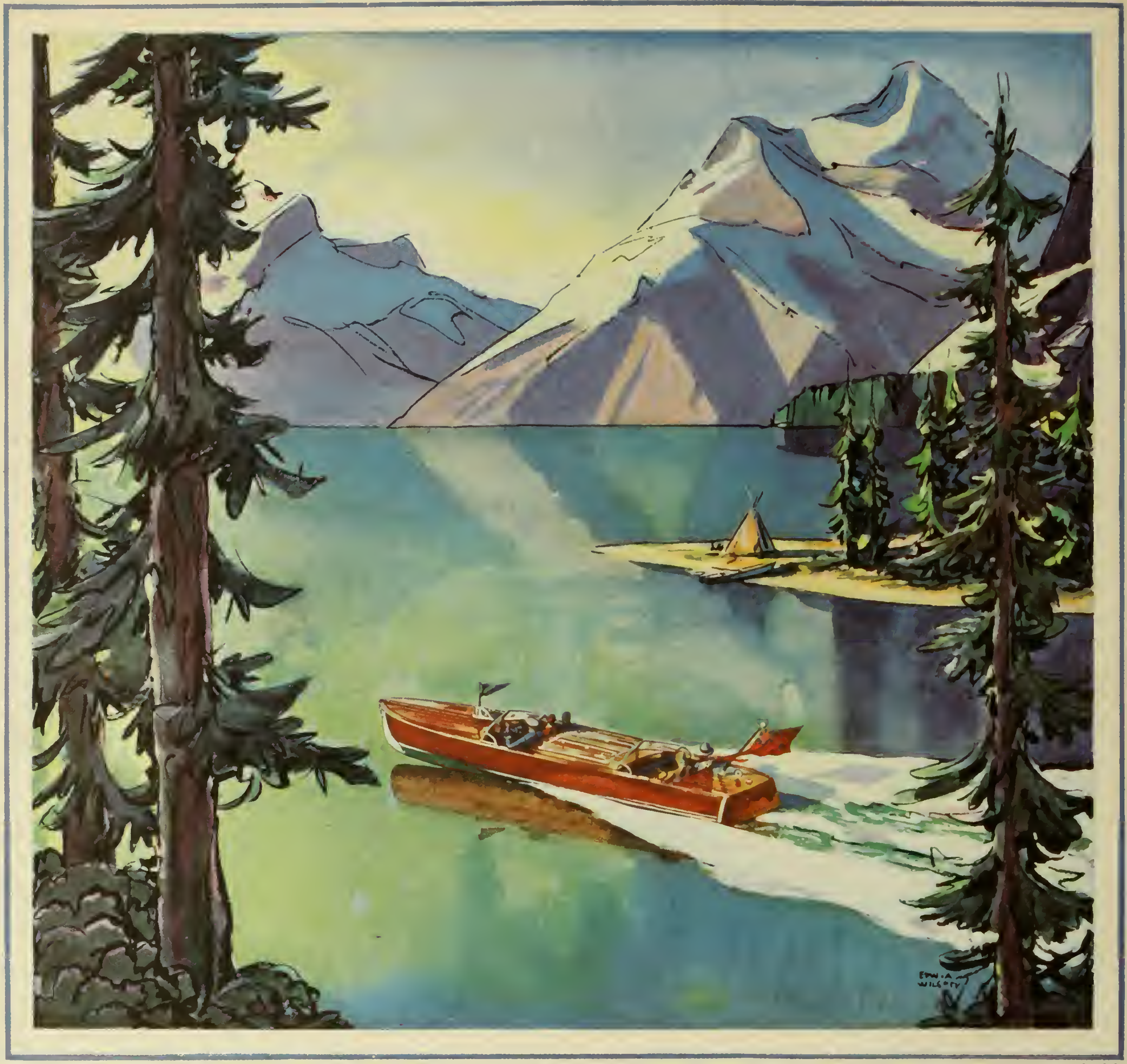

ILLUSTRATED: THE 21 FT. RUNABOUT—115 H.P. LYCOMING STRAIGHT 8 ENGINE—35 M. P. H. PRICE, F. O. B. WORKS, $2100

SKIM the crystal lakes that mirror Northern pines - - - or find a Northern coolness in a lazy evening cruise on waters nearer home - - - Whatever you want a motor boat to do, there is a Dodge Boat to do it dependably - - - Dollar for dollar, size for size, Dodge Boats are unique in seaworthiness, comfort, beauty, speed, value - - - The 30-mile-an-hour 40-horsepower 16-footer costs but $945 - - - Like all Dodge Boats it is planked with genuine mahogany, the bottom double-planked - - - The cost-reducing power of vast production, made possible by the unprecedented popular appreciation of Dodge values is evidenced too in the 21-footer at $2100, the 25-footer at $2500, the 28-footer at $3700, Victoria Sedans from $3900 to $5300 - - - Write for the new Dodge Catalog that pictures and describes all Dodge Models.

DODGE BOATS

HORACE E. DODGE BOAT & PLANE CORPORATION, GENERAL SALES DEPARTMENT, 21 WEST 46th STREET, NEW YORK, N. Y. WORKS: NEWPORT NEWS, VA.

MANUFACTURED WEATHER *in the Milam Building, San Antonio, Texas, is a major renting feature and at the same time has resulted in important operating economies.*

Is "INSIDE" OFFICE Space a necessary evil?

Not all the space in a skyscraper can be next to a window . . . but inside offices with Manufactured Weather can be far more comfortable than the old "outside" office ever was

NO renting appeal—however modern—has yet surpassed the primary importance of good air. Everybody used to think that this meant "outside" offices. But no building could be constructed without a certain amount of space remote from windows, and thus less desirable.

Even offices next to windows had their drawbacks. Opening them for more comfort usually meant drafts, distracting street noises, the grime and dust of city air.

Even so, the office with a window was the best at the time, and with every prospective tenant firmly demanding outside space, the building owner was—and still is—up against it to lease inside offices and lower floors, even at lesser rentals.

Now the twin difficulties of drafty, dirty, noisy outside offices and stuffy, uncomfortable inside office space can be completely eliminated. How? By providing office buildings with Manufactured Weather, the Carrier system which—winter and summer—automatically controls temperature, humidity, air motion and air purity. (The lighting of inside office space is solved by new, scientifically correct illumination.)

Visit the 21-story Milam Building in San Antonio, and you'll find every office pleasant and agreeable, even on the hottest and most humid Texas summer day. Drop in at the Chicago Title & Trust Company or the Northern Trust Company in Chicago, and you'll find the exacting routine of these large banks going on smoothly and accurately . . . because employees work under ideal conditions of comfortable and stimulating weather.

Not only does Manufactured Weather create the correct atmospheric conditions for personal comfort and greater working efficiency . . . it also safeguards materials and speeds up processes in more than 200 *types* of industry.

In new buildings and old, Manufactured Weather makes *all* space more desirable, makes "inside" offices and lower floors comfortable and easy to rent. Ask our Newark office to give you specific figures on the investment value of Manufactured Weather.

CAN YOU SEE *where Manufactured Weather enters this office in the Milam Building? Unobtrusive inlets behind plaques or above light fixtures are standard practice in Carrier installations of Manufactured Weather in new buildings.*

BUILDINGS NOW STANDING *can have the comfort of Manufactured Weather. Picture shows an office in the Chicago Title & Trust Company, where ducts originally installed for an old-fashioned ventilating system were adapted for a modern Carrier system.*

Carrier Engineering Corporation

NEWARK, NEW JERSEY

OFFICES: New York, Philadelphia, Boston, Chicago, Cleveland, Washington, Detroit, Dallas, Los Angeles

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LONDON, PARIS, BOMBAY, CALCUTTA, JOHANNESBURG

CÄRRIER LUFTTECHNISCHE GESELLSCHAFT
STUTTGART, BERLIN

Manufactured Weather *makes* "Every day a *good* day"

☆

THROUGH MANY BATTLES

☆

We have several clients whom we have served continuously through as many years as it takes a child to be born and enter college. The business victories we have helped them win have not been single engagements, but the sum total of assaults on many fronts. Steadily to push the line forward through the years calls for changing weapons and tactics, fresh troops, learning from defeats as well as from successes. ☆ After eighteen years of such campaigning, we are today sitting at the council tables of over one hundred and twenty advertisers and marching out with them for their industrial battles from fourteen offices here and abroad.

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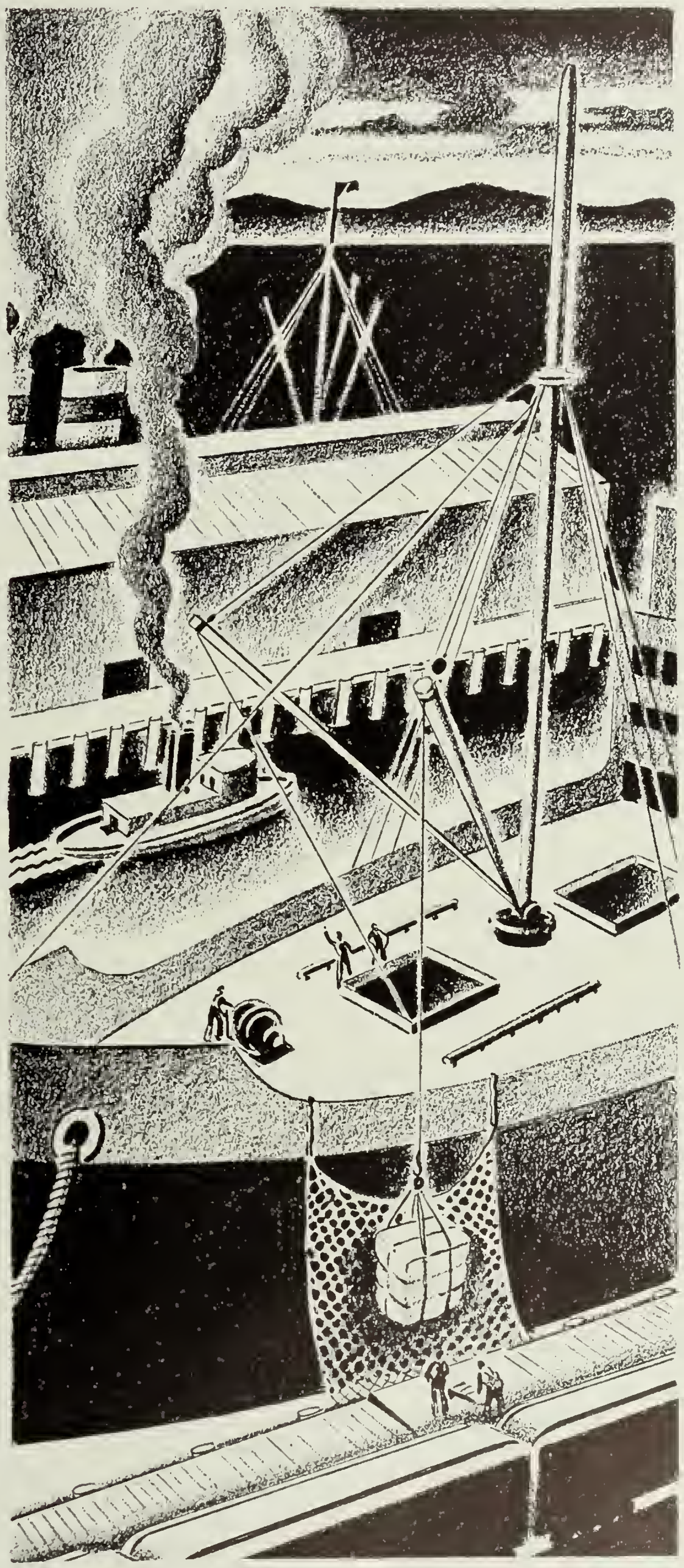
Fortune,
August, 1930

FORTUNE is published monthly by TIME, Inc., at 205 East 42nd Street, New York, N. Y. Entered as second class matter January 7, 1930, at the Post Office at New York, N. Y., under the act of March 3, 1879. Subscription rates: One year in the U. S. and possessions, $10; Canada, $10.50; elsewhere, $11.

Vol. 2
No. 2

IN THE CENTER OF THE PACIFIC COAST SAN FRANCISCO OFFERS TREMENDOUS ECONOMIES IN PRODUCTION AND DISTRIBUTION



Economy that begins with cheap land for the industrial site and continues through all the processes of production and distribution ... that is San Francisco's offer to the manufacturer. And that is why San Francisco is today headquarters for the leading manufacturing interests on the Pacific Coast.

If more than one western city proclaims efficient labor aplenty, cheap power and fuel and abundant raw materials within easy reach, San Francisco alone combines them all with the supreme advantage of excellent transportation facilities. Three transcontinental railroads, a vast network of highways and the vessels of 146 steamship lines facilitate quicker and cheaper distribution from San Francisco than from any other city to 11,000,000 people who live west of the Rocky Mountains.

San Francisco bay, second only to New York in value of waterborne tonnage, is the traditional gateway to the growing markets of the Pacific. 900,000,000 people in the lands that the ocean borders virtually look at America through the *Golden Gate.*

The climate that has helped to bring 1,600,000 people within a radius of an hour's ride from downtown San Francisco aids economy too. No oppressive summer heat slows production; winter is only a borrowed name. Economical natural gas is another tremendous advantage this city offers and in your own thorough investigation you will find many another that plays a part holding for San Francisco the industrial, as well as the financial and commercial, leadership of the West.

San Francisco's commanding position is built upon cold hard facts that any man may know!

Californians Inc., will be glad to send you the book: "Why Manufacturers Choose San Francisco." Address Dept. 2208, 703 Market Street, San Francisco. There is no obligation.

SAN FRANCISCO

IN CALIFORNIA—"WHERE LIFE IS BETTER"

Off the Record

Cranes

RICHARD TELLER CRANE once worked in a New Jersey cotton factory and once worked in a tobacco factory and in 1855 he went to Chicago and erected a small frame building on which he painted a sign which read: "R. T. CRANE. Brass and Bell Foundry." It took him two months to build the building and collect the equipment, and finally everything was ready by the third of July. The next day, of course, was a holiday, but the young man was too excited about his building and the founding of his own business to rest. So on the Fourth of July, 1855, he walked into his place of business and poured the first metal that ever went into a Crane product. And that is why the Crane Co. this year celebrated its seventy-fifth anniversary on Independence Day.

His business prospered. It had no patents, and it had no monopoly. It was not founded on a new invention as is the Radio Corporation. The Crane shop, and remarkably soon the Crane shops, merely put out good valves and pipes and steam cocks, sold them well, and profited. Its now familiar plunge into plumbing and bathrooms came later. But Richard Teller Crane, when he had become one of Chicago's great industrialists and developers, used to delight in telling his hostesses that he was only a plumber. He was—but he was also much more.

In time, as was perfectly fitting, Mr. Crane handed the business down to his sons. Of these, Charles Richard Crane became the president. Always a great traveler, his interest was most centered in the Far East and Near East. In 1909 he was appointed Minister to China by President Taft. Before sailing to China, however, he made, at President Taft's request, a public statement of his policies. President Taft almost immediately canceled his appointment, and the incident remains one of the most startling in American politics. Finding himself in disagreement with the Republican Party, Mr. Crane became a Democrat, and in 1920 President Wilson appointed him Minister to China. And this time the appointment was not withdrawn. In 1914, not because he disliked his business but because he wanted to do something else, he had resigned from the presidency of his company. Since then he has continued his travels and his research in the Orient. Not the least of his adventures there occurred last year when in the Koweit Protectorate he and a party of friends which included his son, John, were attacked and shot at by bandits. The Rev. Henry A. Bilkert, who was driving Mr. Crane's automobile, was killed.

The love of politics extends to Charles Richard Crane's children. His son, Richard Teller II, was first U. S. Minister to Czechoslovakia; another son, John Oliver, is a former secretary to President Thomas Masaryk of Czechoslovakia; a daughter, Frances, married the Czechoslovakian Minister to Great Britain, Jan Masaryk.

The president of the Crane Co. today is Richard Teller Crane Jr. It has been said of him what was formerly said of his white-bearded father—that he would rather visit a Crane shop than attend the opera. True it is that he is hardly ever in Chicago, that he is apt at any moment to appear at one or another of the many Crane factories. As far as music is concerned, there *is* an organ in his Chicago house. His philanthropies are large (he has built two hospitals), and his social activities he leaves in the capable hands of his wife, a sister of Mrs. Joseph Patterson. Mr. and Mrs. Crane live in a huge old-fashioned Lake Shore Drive house. It is amusing to note that there are no modern Crane bathrooms in it. Another Crane house, however, at Ipswich, Massachusetts, does have the bathrooms colorfully advertised by the company.

Thus far, rather unlike his father is Richard Teller Crane Jr.'s son, Cornelius. Recently elected a director of the company, he has not yet worked therein, prefers to make scientific expeditions to the South Seas in his 147-foot *Illyria*.

Of the five sons of the original Richard Teller Crane, three are alive: Charles Richard Crane, the former Minister to China; Richard Teller Jr., the Crane president; and Herbert Prentice Crane, a not very active director of the company. Herbert's son, however, Charles Richard II, has been with the company twenty-two years, and it may be he who will be the next president of the company.

• • •

As of many another man of prominence, it may in all friendliness be said of Mr. Charles Richard Crane that he knows what he likes and gets what he wants. One thing that Mr. Crane particularly liked was the Rigistan, the old University square in Samarkand. Another thing he liked was a painting one foot square that he happened to see one day in Tiflis. And a thing which Mr. Crane wanted was an oil painting of this particular Rigistan which had taken his fancy. Mr. Crane's method was simple and direct. He discovered the unknown artist who had painted the little painting, took him to Samarkand and said, "Paint." Giga Gaboyeff, for that was the artist's name, obeyed. He painted several scenes for Mr. Crane, taking in all two years to finish them. But Mr. Crane was more than satisfied. No one else, he thinks, has so well caught the spirit of the East. Giga Gaboyeff's painting of the Rigistan in Samarkand is reproduced on page 47 of this issue.

The Gaboyeff paintings now hang in Mr. Crane's home on Park Avenue, Manhattan. In fact, in its way, this home is a miniature museum of the Far East and Near East. And Mr. Crane likes it so.

Ayrshires

SOMETHING there is about many people that loves Ayrshire cows. For in its May issue FORTUNE printed an article dealing with cows, and in the course of it made mention of Guernseys and Holsteins and Jerseys. But no mention was made of Ayrshires, and from many a state came gentle remonstrance.

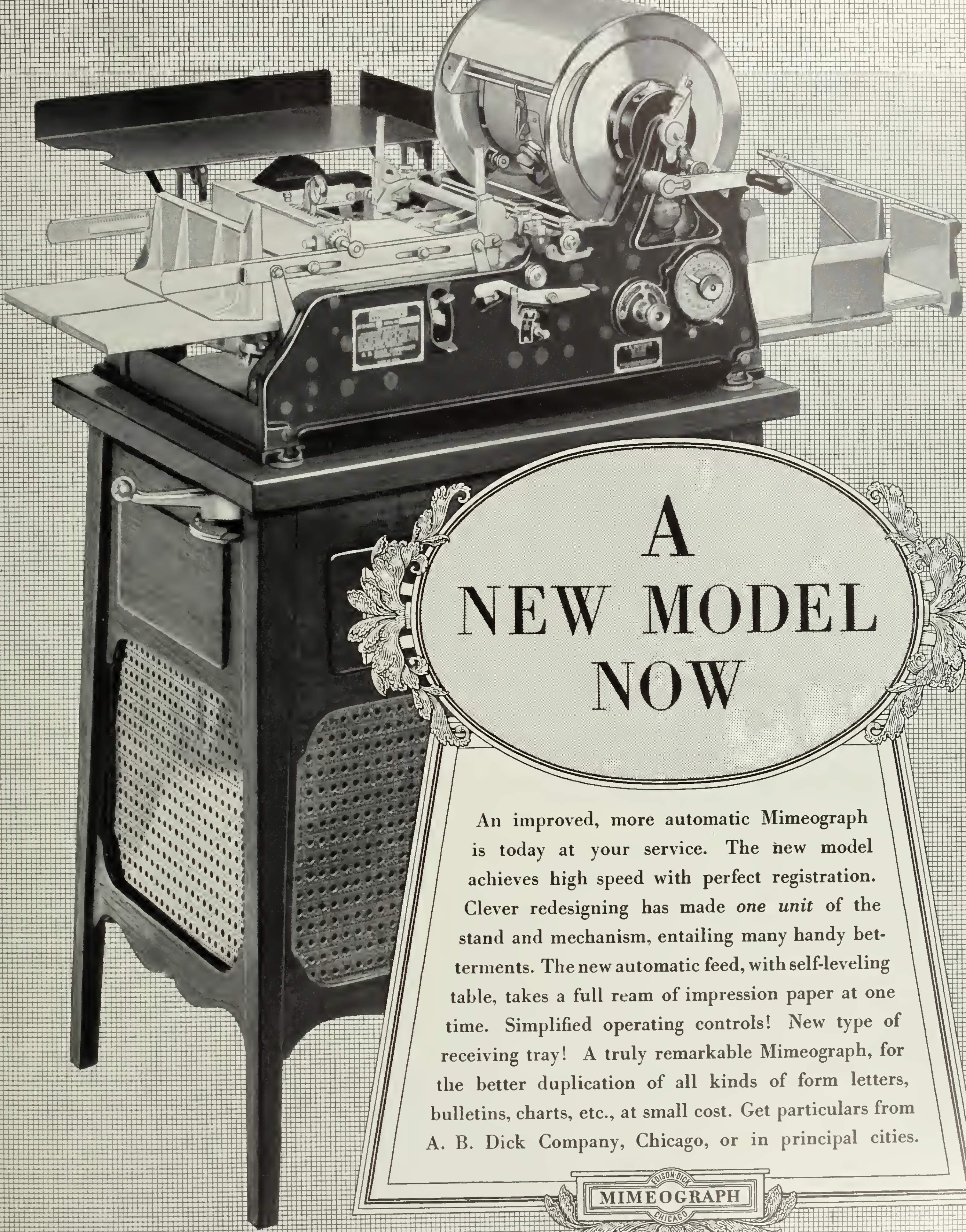
Most beautiful of all the breeds, said some of these remonstrators, is the Ayrshire. White, with brick-red spots (the most fashionable today have red cheeks and a red neck), the Ayrshire carries itself proudly. It has a smooth back and rounded hips. But behind beauty is danger. The Ayrshire has horns of a unique and peculiar shape; they come out forward and turn sharply up. Behind the horns is a nervous disposition and a tendency to meanness. That may have something to do with the fact that there are only about 90,000 of the breed in America. And in this mechanical civilization another factor acts against them. Their teats are not long enough for efficient milking by machine. Yet with all these faults there are enthusiastic breeders of the race who insist that no other cow equals the Ayrshire.

Under the innumerable sycamores upon the 800 acres of Mrs. E. R. Fritsche at Douglassville, Pennsylvania, roam the Ayrshires who furnish the milk for the cafés where food and drink are obtained by putting money into slots. Mrs. Fritsche, who keeps her 160 cows in barns colored like themselves, red and white, has a large interest in the Horn & Hardart cafeterias. She is also a director of the Ayrshire Breeders' Association, the only woman director of a stock association in the country. At Sycamore Farms she serves at one time both her interest in cafés and in cattle. Her Ayrshires and her Berkshire hogs, which reach the automat in the form of pork chops, have won many prizes at stock shows.

At Fillmore Farms at Bennington, Vermont, upon level fields at the foot of the White Mountains, James C. Colgate, of James B. Colgate & Co., brokers, has 300 head of Ayrshires. Percival Roberts Jr., of the finance committee of the U. S. Steel Corporation, keeps one of the largest and most highly developed herds of Ayrshires in the country at Penshurst Farm near Philadelphia.

Potato Paradise

THE Mic Macs and Tobiques, who were Indians, were the first people to live in the Aroostook Valley, and it was they who thought of its name, which means "dark water." In the late seventeen hundreds the first white settlers arrived from southern Maine and later, due to the efforts of an ambitious U. S. Minister to Sweden, some



A NEW MODEL NOW

An improved, more automatic Mimeograph is today at your service. The new model achieves high speed with perfect registration. Clever redesigning has made *one unit* of the stand and mechanism, entailing many handy betterments. The new automatic feed, with self-leveling table, takes a full ream of impression paper at one time. Simplified operating controls! New type of receiving tray! A truly remarkable Mimeograph, for the better duplication of all kinds of form letters, bulletins, charts, etc., at small cost. Get particulars from A. B. Dick Company, Chicago, or in principal cities.

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International imports

ED. PINAUD
LILAC VEGETAL
PARFUM
LILAS
DE FRANCE
18 PLACE VENDÔME
PARIS
A LA CORBEILLE FLEURIE
HYGIENE DE LA TOILETTE
HYGIENE OF THE SCALP
EAU DE QUININE
COMPOUND HAIR TONIC
ALCOHOL 68 PER CENT
PREPARED FROM ESSENCES COMPOUNDED IN FRANCE PUT UP BY OURSELVES IN NEW-YORK
ED. PINAUD
18 PLACE VENDÔME, PARIS

©Pinaud 1930

A banker in Manhattan . . . a British Colonel in Singapore . . . a famous sportsman of the Argentine . . . it is literally true that there is not a corner of the civilized globe where civilized masculinity does not swear by these two brilliant indispensables: *for the hair* PINAUD'S EAU DE QUININE—literally the most famous tonic and dressing in the world . . . *for after shaving and as a toilet water,* PINAUD'S LILAC VEGETAL—pungently fragrant, miraculously soothing and rejuvenating. You can obtain them both at any druggist's—blended now, exactly as when Pinaud first perfected them generations ago, with essences imported direct from France. PINAUD, PARIS-NEW YORK.

Off the Record—*Continued*

Swedes settled in the Valley in a little town which, with no originality but with a certain pride of colonization, they called New Sweden. The Valley was a pleasant enough place, but no one at first thought that it would achieve industrial prominence and actually become one the great prides of the citizens of Maine. Its industrial prominence is due entirely to potatoes. It was thought at first that it would be lumber that would make for money (there still exists one Aroostook lumber company), but lumberjacks have to eat and to take care of that urgency somebody planted some potatoes. They grew surprisingly well and some years later several bushels were shipped to Boston. From that shipment dates the ever-increasing fame of the Aroostook potato.

Today so organized is Maine's potato industry that at harvesting time almost the entire crop can be placed under cover and in easy access of shipment. In 1926, from the 42,688 cars of potatoes which Maine shipped to twenty-eight states, the growers received an estimated return of $37,000,000. Besides this, 15,000 cars were diverted to the farmers' tables and for seed. That was a fairly good year—the year 1925 was terrible—but it is of 1923 that residents of the Valley like to speak. In that year the average yield of potatoes in the United States was 108 bushels an acre. But in Aroostook they produced 266 bushels an acre, and that is probably a world record.

The year 1929 was also a source of great satisfaction. There were drought and frost in Michigan, Wisconsin, and the Northwest, there was a crop failure in Canada, but the Valley, untouched, produced one of the largest crops in its history.

· · ·

Aside from their potatoes, the natives of the Valley take greatest pride in their horses. Without exception they are high-bred Percherons, but they are farm economy, for horses, not tractors, do the work. The Valley is a one-crop country. Only one farmer produces honey to sell; most of them raise a few oats or buckwheat but only to feed the horses. There are not eggs enough to supply the local market; there is not a creamery in the county. Potatoes are the main food supply, a very unusual thing in a one-crop region. Poultry-raisers generally abjure eggs, the butter farmers of Denmark eat margarine, but in Aroostook, potatoes are served three times a day. Seven potatoes are considered a good Sunday meal.

There have been mortgages paid and unpaid on the potato crops. Although it has no tickers installed on its fields, Aroostook is often rocked on the most surprising waves of finance, but generally it has not been caught in an undertow. It is a Spud Paradise and those who have made it so have been richly, if unevenly, rewarded by their many-eyed protégés.

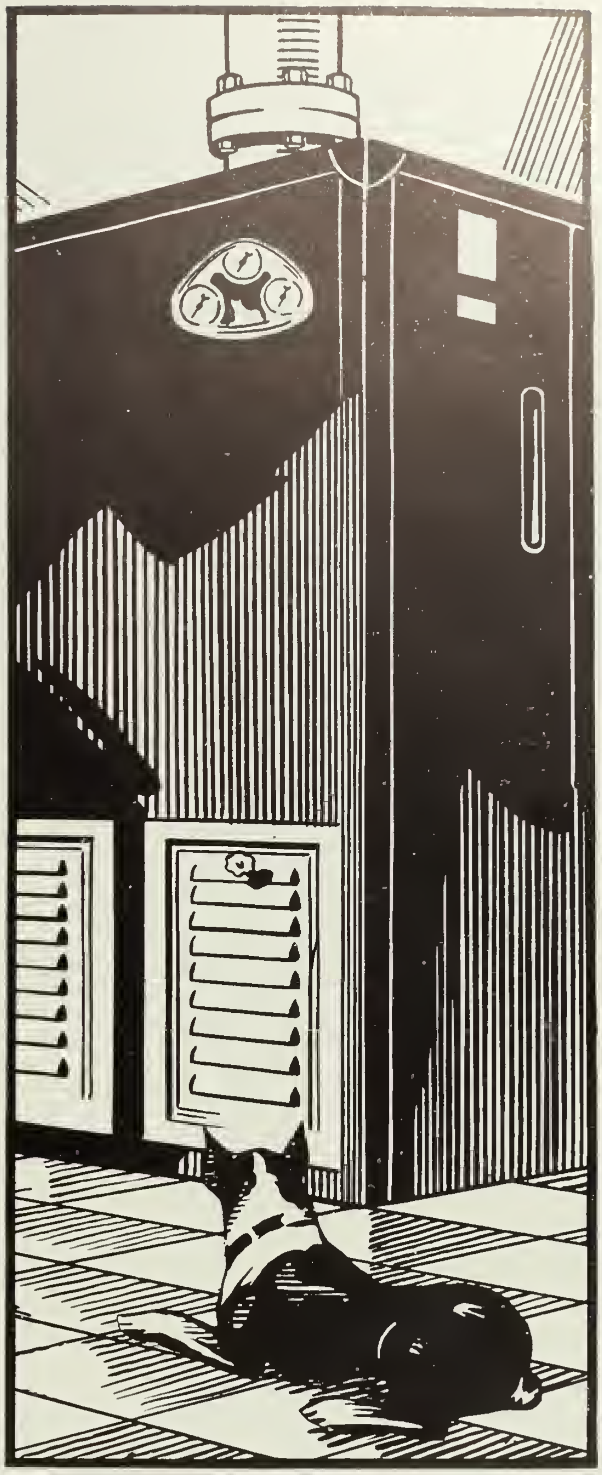
· · ·

Perhaps no more pointed example of Maine's pride in its potatoes exists than that afforded by the violent objections of Maine's Representative Snow to his discovering on the menu of the House Restaurant the words "Idaho Potatoes," conspicuously written in red ink. To him such discrimination was tantamount to treason, and his expostulations fairly burst from him. No less loyal are the growers themselves. They have even written poems praising their Valley. Like most poems, they are rather poor.

· · ·

What really launched the potato industry in Maine was the building of the Bangor & Aroostook Railroad. Before its completion Maine potatoes were chiefly used for starch. The railroad gave the rest of the country access to the potato market, and after its construction the starch industry declined rapidly. If the railroad helped the potatoes, the potatoes gratefully have returned the assistance. Unlike many a small New England road, the Bangor & Aroostook last year showed a comfortable margin of net earnings. None is more keenly aware of this satisfying condition than Mr. Percy Todd, president of the line. For many a year he has brought minute attention to all the details of his road. He even has a speedometer in his private Pullman car. When a Bangor & Aroostook engineer drives too fast, he signals to him to stop. Mr. Todd, too, it may be presumed, likes potatoes.

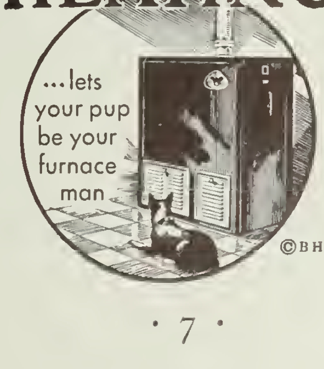
The Swing to
GAS HEATING



All across the country the trend is clearly marked. In community after community gas companies have organized aggressive sales activities to capitalize the lively public recognition of the fact that, in the field of house-heating, no fuel is equal to gas. ⋆ This intensive cultivation of the vast domestic market for gas ushers in a new era of service in the gas industry—assures a new standard of living comfort, based upon Automatic Gas Heating, "the greatest single convenience ever offered the American home."

THE BRYANT HEATER & MANUFACTURING COMPANY
17852 ST. CLAIR AVENUE ·· CLEVELAND, OHIO

BRYANT
GAS
HEATING



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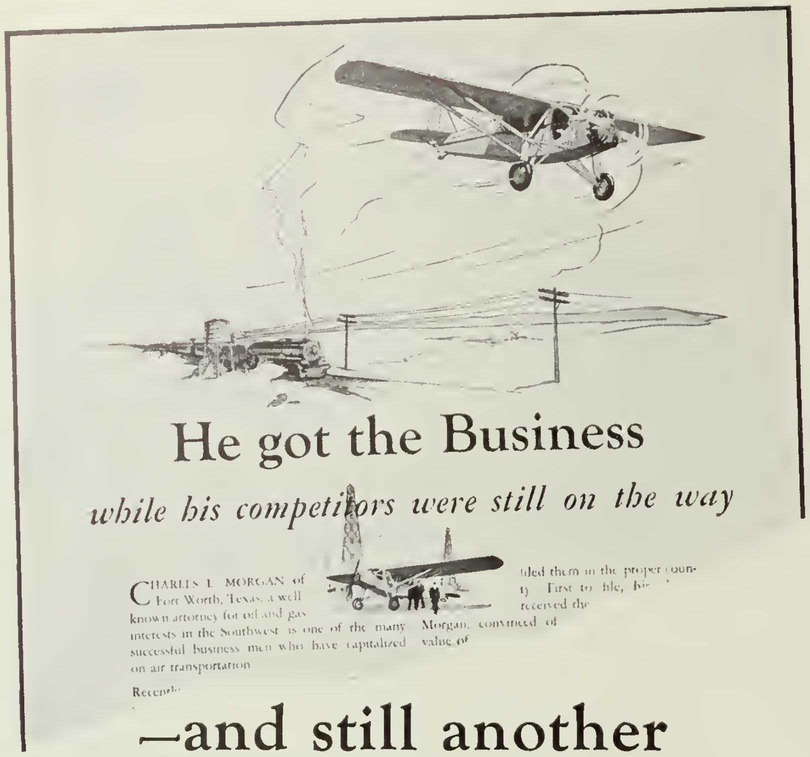


He got the Business

while his competitors were still on the way

—and still another

"Gets the Business"

"PLEASE have a sales representative call as soon as possible." This wire from a "hot" prospect caused the sales manager of a large eastern manufacturing company some concern.

"As soon as possible" meant at least twelve hours by car—by train, virtually three days to make the round-trip. And his competitors were also after the job. Then he recalled reading the advertisement reproduced above . . . *by plane*—only three hours!

Boarding a transport plane he flew to the customer's city. The customer was impressed, signed the order and the sales manager returned to his office *the same day*. It was another case of the first one there, "gets the business."

The sales manager's company—having witnessed the value of fast air transportation—is now ready for a company-owned plane. And because Ryan offers proved business planes, they are planning on the purchase of a Foursome — a de luxe, 4-place executives' model. In addition to the Foursome, Ryan builds the Brougham for six and the Wasp-powered Brougham for seven.

Let us show you how you can use a Ryan to advantage in your business. Write today and we will send you our illustrated catalog and arrange to have a representative call.

SISTER SHIP OF THE RYAN "SPIRIT OF ST. LOUIS"

DETROIT AIRCRAFT

FORT AND CAMPAU STREETS, DETROIT

CHANIN BLDG., NEW YORK :: ROOSEVELT BLDG., LOS ANGELES

RYAN AIRCRAFT CORPORATION
LOCKHEED AIRCRAFT CORPORATION
PARKS AIR COLLEGE, INCORPORATED
PARKS AIRCRAFT CORPORATION
EASTMAN AIRCRAFT CORPORATION
AIRCRAFT DEVELOPMENT CORPORATION
BLACKBURN AIRCRAFT CORPORATION
MARINE AIRCRAFT CORPORATION
GROSSE ILE AIRPORT, INCORPORATED
GLIDERS, INCORPORATED
AIRCRAFT PARTS COMPANY, INCORPORATED
DETROIT AIRCRAFT EXPORT CORPORATION

Off the Record—*Continued*

Mr. Kraft's Skeletons

MR. JAMES L. KRAFT is the board chairman of the Kraft-Phenix Cheese Corp. As such, his interest is of course largely lacteal. He has invented many of the company's cheese-making processes, and he likes cheese. But Mr. Kraft has another interest, and to this interest, too, he devotes much time and attention. Mr. Kraft, in every sense of the word, is an antiquarian.

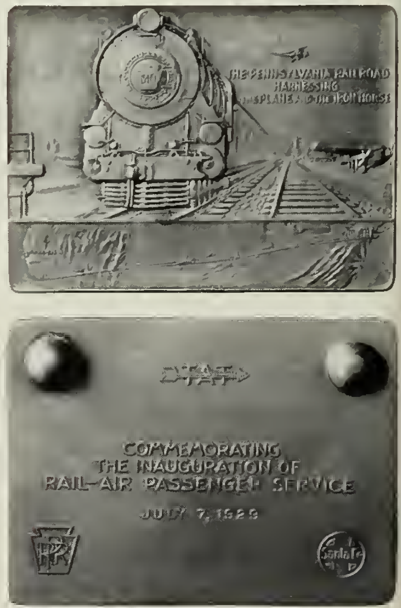
On the paneled walls of his Chicago office hang six large and rather unprepossessing plaques bearing the imprints of very ancient fish fossils. There are also funeral urns, stone weapons, idols. At his home Mr. Kraft has one of the world's largest collections of uncut jade, three statuettes from Palmyra which date to 400 B. C., a stone tablet revealing some intimate details of the life of Nebuchadnezzar, and a complete set of Babylonian "virgin lamps," said to have been tied at night to the ankles of Babylonian virgins so they could find their way on dark roads. In Lincoln Park soars a forty-foot totem pole, Alaskan in origin, and until he gave it to the city Mr. Kraft's property. And in one of Chicago's museums are two Indian skeletons that were found in an Alaskan glacier. For some time Mr. Kraft kept these two in his home, but finally he gave them to the museum. Mrs. Kraft could not stand them.

Medals and Emblems

THE business founded by Mr. B. S. Whitehead and Mr. C. R. Hoag (known naturally as Whitehead & Hoag) is rather odd. It is odd because its success depends upon the achievements of persons who, although they may have heard of the company, are never even remotely connected with it. Whitehead & Hoag make medals, all kinds of medals. And since the days of the Ptolemies (and even before) it has been man's particular pleasure to give medals to such of his kind as achieve some sort of distinction. Whitehead & Hoag, aware of this habit, are prepared to make any kind of medal you want. You give it to your particular hero, and you and the hero can have all the fun. Somebody, of course, pays the company. It is all for profit to the firm and courtesy to the heroes. Few businesses have so charming a *modus operandi*.

Whitehead & Hoag made Woodrow Wilson's inaugural medal, the only one ever made outside of the government mints. They also made one of the more official medals presented to Colonel Lindbergh. They have made currency for certain South American countries and could make U. S. money too if the government would let them. Of course, the company makes things other than medals: badges for Elks or firemen or conventions, for instance; badges for Presidential campaigns; company souvenirs; celluloid signs for use on counters. The company has its rivals, but it is probably the best known of them all.

In all Whitehead & Hoag are interested in six branches of work: medals, celluloid articles, signs, badges, leather articles, emblems. But it is especially due to their work with the medals and emblems that they have achieved a certain measure of fame. Mr. Whitehead was once a printer; Mr. Hoag a jobber in the paper business. Neither seemed destined to be a hero. They did what may be the next best thing. They became the exterior decorators of heroes and near-heroes. It is on the whole a pleasant occupation.


THE PENNSYLVANIA RAILROAD
HARNESSING
AEROPLANE AND THE IRON HORSE
COMMEMORATING
THE INAUGURATION OF
RAIL-AIR PASSENGER SERVICE
JULY 7, 1929
PRR
Santa Fe

WHITEHEAD & HOAG PLAQUE

The above plaque was presented to the first thousand passengers who took the New York-Los Angeles Rail-Air Route.

Try *this* ON YOUR WIFE

. . . if you fail to predict *her* preferences how can you expect to guess those of women you have never seen?

Given her choice, which of the three hats pictured above would your wife select?

This question was put to ten business men. Only three of them answered it correctly. Their effort to forecast the choice was a complete failure for, on the basis of pure chance, one out of three was sure to guess right.

Try this on your own wife. If you have daughters or sisters, try it on them. Then remember the result every time you are asked to pass judgment on advertisements.

The Taste of the Fish

Not so long ago someone said, "It isn't the taste of the angler that decides the kind of bait to be used — it's the taste of the fish!" That axiom ought to be framed and hung in the office of every executive who has anything to do with advertising copy. Effective copy must appeal to prospects, and you can never be sure that what appeals to you will appeal to them. No man knows the likes and dislikes of enough people to predict the preferences of millions whom he has never seen.

Let Your Prospects Decide

We have developed in this agency a method of determining which ads appeal most to prospects, and determining this before one dollar is spent for costly space in magazines or newspapers. All the brains we possess are first focused on the preparation of effective ads just as is done in every agency sincerely interested in its clients' welfare.

But there is this difference in Dyer-Enzinger procedure. We prepare (in rough sketch form) at least three times as many ads as will be needed for publication and we find out which of these will secure the greatest sales response from the men and women to whom they are addressed.

Quite often the ad that both our client and ourselves would have bet heavily against romps home far in the lead. Sometimes the very last idea to be thought of is first in appeal to readers.

Drop a line to George Enzinger in Milwaukee, or J. W. Lee, Jr. in New York for a description of this new approach to the greatest of advertising problems, a method which adds substantially to the producing power of every dollar of your appropriation.

DYER-ENZINGER COMPANY, INC., *New York, Chicago, Milwaukee*

GOOD NIGHT

The Book-Cadillac Hotel
DETROIT

Good night

When night comes down in Detroit, they say there's great content among the traveling men. Even at dusk, they slip away from lobby chairs, from groups in rooms, to lock their doors and pile in bed and read and rest and *sleep.* You see, you come to us from nearby or far away and you're wistful and hot, hungry and tired, and we're your hosts, and find *for you* the softest and sleepiest bed in all the world. We *know* you *sleep* and rest for you tell us so; and maybe, too, we tiptoe 'long the corridors (after the cat has been put out) to listen at your transom to the songs you sing and hum, unknowingly, as you *sleep* in a cool and cozy room, in a bed as soft and as drowsy as a winter's night. *Good night.* See you soon.

The Book-Cadillac Hotel
ON WASHINGTON BOULEVARD
THE STREET OF FINE SHOPS
DETROIT

CARL M. SNYDER
MANAGING DIRECTOR

Statistics

To THE Metropolitan Life Insurance Company life is a series of statistics. If you are making $2,500 a year, for instance, and unto you a son is born, the Metropolitan coldly and accurately values your child at just $9,333. By the time your son has reached eighteen, he is worth $28,654 to you. Since it has cost only $7,238 to raise him, it is plain that children are a gilt-edged investment.

If you are that mythical creature, the "average man," the Metropolitan observes that you lose seven days a year through sickness. Every year preventable deaths snuff out lives worth over $6,000,000,000.

• • •

Missouri airplanes are safer than Missouri mules. Almost twice as many people died there last year from mule kicks as from air crashes.

• • •

Every day about $22,000,000 of old paper money is replaced by new, which is considerably slower than was anticipated. Of the $4,793,831,903 in paper currency floating around the country (or anchored securely in banks) about 22 per cent is still in old bills.

• • •

Every man, woman, and child in England spent an average of $32 on liquor last year. The per capita figure for this country is estimated by the Wets at $21.

• • •

Phone talks, long suspected to be the nadir of civilized conversation, have now been mathematically demonstrated to be such. Bell engineers, listening in on thousands of telephonic conversations, most of them business calls, found that nearly half the words spoken could be included in a list of thirty words, and that 80 per cent of the 79,390 words they heard were one or another of 155 words. The pronoun "I," used 3,990 times, led all the rest.

• • •

In 1929 Americans spent $250,000,000 on fine art. The market crash threw no large collections on the market, nor did it cause any drop in prices of *objets d'art.* About one-third of the total amount spent went for Old Masters, notably for Piero della Francesca's *Crucifixion* ($375,000) and Fra Filippo Lippi's *Madonna* ($125,000). Etchings, lithographs, and such are estimated to have brought $25,000,000 last year.

• • •

In 1929 Americans spent more than $600,000,000 on candy. Sweets sales responded only feebly to such sentimental occasions as Valentine's Day and Mothers' Day, more vigorously to feast days like Christmas and Thanksgiving. The percentages above normal were Valentine's Day, 9 per cent; Mothers' Day, 20 per cent; Thanksgiving, 28 per cent; Easter, 42 per cent; Christmas, 141 per cent.

• • •

The average citizen has an income of $749 a year in this country as against $409 in Great Britain and $201 in France, the next two highest. On the other hand, a square mile of U. S. territory has only $29,540 a year, which is less than the same area has in Germany, France, Italy, and, richest of all, Great Britain, which has $195,638. However, the average citizen cares much more about his income than does the average square mile.

• • •

Eight miles an hour is slow on the horizontal plane, but not so slow on the vertical. It is the speed limit (700 feet per minute to be exact) for the elevators in the New York Life Insurance Building.

• • •

The impact with which Napoleon has impressed himself on history is measured by the 40,000 books that have been written about him, almost one a day since his death.

Courage in Business

All modern industrial and mercantile expansion depends upon *Courage.* It explains progress. It determines the limits of individual success. It is the physical expression of confidence and belief.

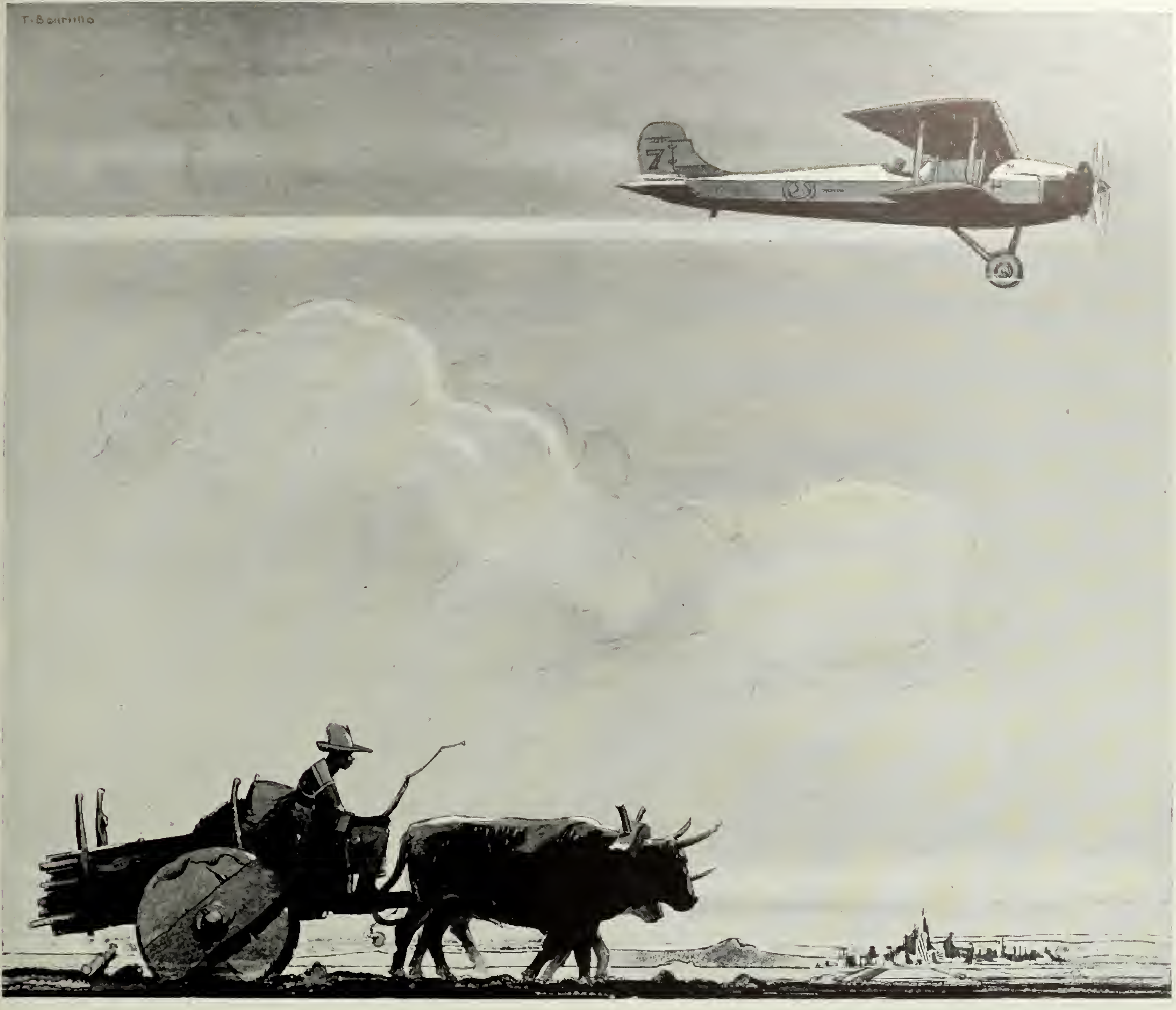
Business moves forward only so far as it is led by men with the vision of new conditions, new ideas, new forces, new methods —*and the courage to put them through.*

Companies lacking this leadership are left behind after every period of inflation. Courage is not governed by conditions; it controls conditions. It not only recognizes, but *corrects,* weak organization, backwardness, inefficiency.

Courage is inspired by knowledge. Knowledge dispels fear. Exact knowledge of one's business comes from the analysis of facts incident to sound planning, and from the frequent comparison of operating results with a well-made Budget. Weaknesses and wastes are made apparent and knowledge of better ways, *with courage,* eliminates them.

ERNST & ERNST
ACCOUNTANTS AND AUDITORS
SYSTEM SERVICE

AKRON
ATLANTA
BALTIMORE
BIRMINGHAM
BOSTON
BUFFALO
CANTON
CHICAGO
CINCINNATI
CLEVELAND
COLUMBUS
DALLAS
DAVENPORT
DAYTON
DENVER
DETROIT
ERIE
FORT WAYNE
FORT WORTH
GRAND RAPIDS
HARTFORD
HOUSTON
HUNTINGTON, W. VA.
INDIANAPOLIS
JACKSON, MISS.
KALAMAZOO
KANSAS CITY
LOS ANGELES
LOUISVILLE
MEMPHIS
MIAMI
MILWAUKEE
MINNEAPOLIS
NEW ORLEANS
NEW YORK
OMAHA
PHILADELPHIA
PITTSBURGH
PORTLAND, ME.
PROVIDENCE
READING
RICHMOND
ROCHESTER
ST. LOUIS
ST. PAUL
SAN ANTONIO
SAN FRANCISCO
SEATTLE
TAMPA
TOLEDO
TULSA
WACO
WASHINGTON
WHEELING
WILMINGTON, DEL
WINSTON-SALEM
YOUNGSTOWN



"To save time is to lengthen life—"

"Acceleration, rather than structural change is the key to an understanding of our recent economic developments."

—From the report of President Hoover's Committee on Recent Economic Changes

THE PLOD of the ox-cart. The jog trot of the horse and buggy. The rush of the high-powered motor car. The zoom of the airplane. Acceleration. *Faster* speed all the time.

Speed and more speed in production, transportation, communication, and as a result, more wealth, more happiness, and yes, more leisure for us all.

Scientific research has been the pacemaker of this faster, yet more leisurely, existence. At a steadily increasing rate it is giving us hundreds of inventions and improvements which speed up work, save time and money, revolutionize life and labor in the modern age.

Conceive how much time modern electric lighting has saved the American people—not to mention the billion dollars a year in lighting bills saved by the repeatedly improved efficiency of the Mazda lamp. Think of the extraordinary democratization of entertainment and education made possible by the radio tube!

Both these benefits to the public owe much to the steady flow of discovery and invention from General Electric laboratories. So do the x-ray and cathode-ray tubes, the calorizing of steel, atomic-hydrogen welding, the generation of power for home and industry at steadily lower costs.

The G-E monogram is a symbol of research. Every product bearing this monogram represents to-day and will represent to-morrow the highest standard of electrical correctness and dependability.

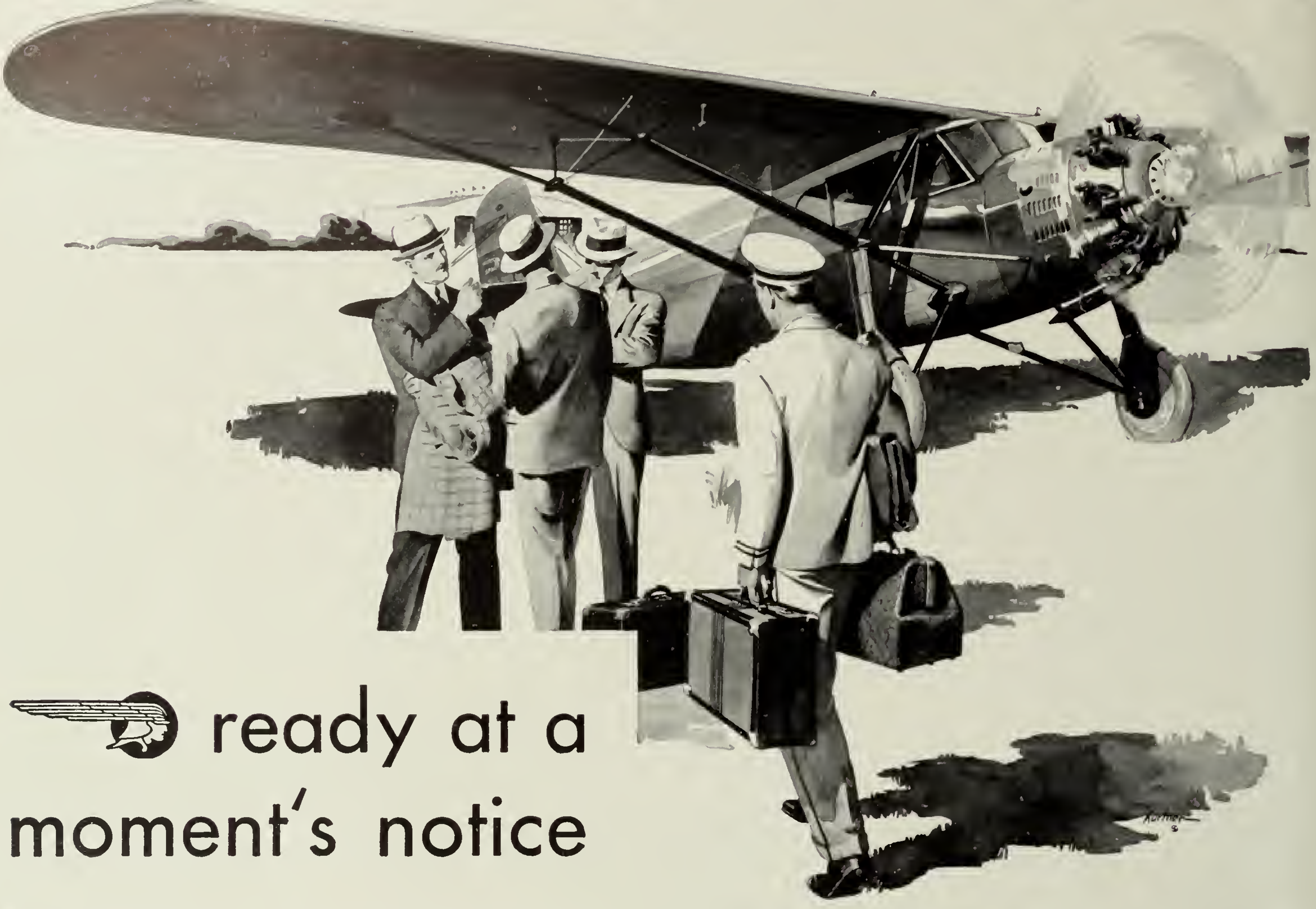
For the Home—General Electric and its associated companies manufacture a complete line of electric products including G-E Mazda and G-E Edison Mazda lamps, G-E refrigerators, G-E fans, G-E vacuum cleaners, G-E wiring systems, Edison Hotpoint heating appliances, and G-E motors for other household electric products.

For Industry—Several thousand electric products and appliances, including generating and distributing apparatus, motors, electric heating apparatus, street lights, floodlights, traffic lights, airport lights, Cooper Hewett lights, Victor X-ray apparatus, motion-picture apparatus, electric locomotives and equipment, and street-car equipment.

JOIN US IN THE GENERAL ELECTRIC PROGRAM, BROADCAST EVERY SATURDAY EVENING ON A NATION-WIDE N. B. C. NETWORK

GENERAL ELECTRIC

SPARTAN

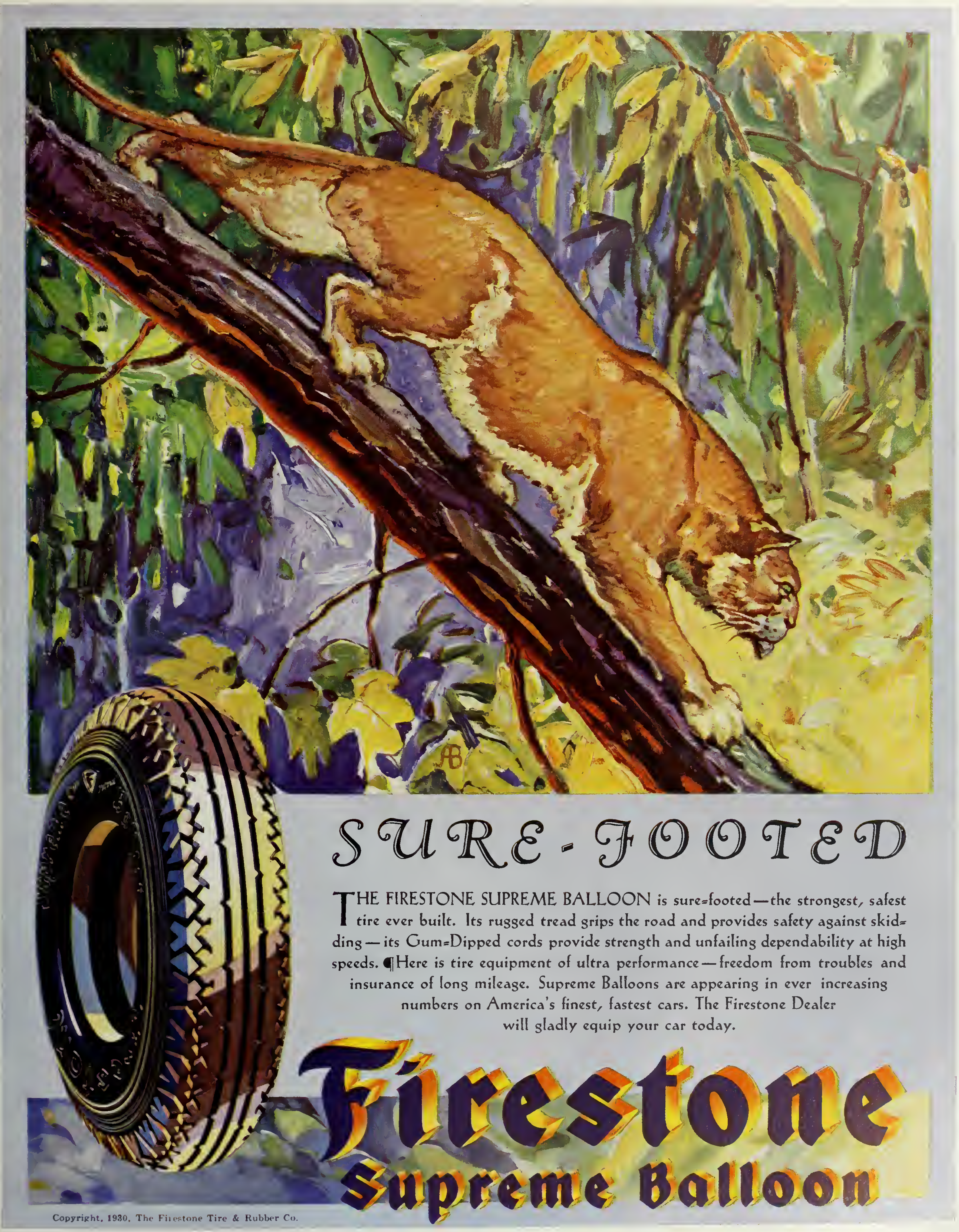


ready at a moment's notice

WHENEVER there are important engagements and many widely scattered cities to visit, there is no substitute for the speed and economy of air travel. To the executive every business hour has its actual monetary value, and the airplane is the only means of travel that allows him to collect an added premium on his time. ¶The Spartan cabin monoplane is particularly suited to the exacting needs of business men. It has ample room for four persons and their luggage. Its Wright Whirlwind engine gives it a speed of 130 miles per hour, a cruising range of 615 miles, and it is as easily landed on the small private field as on the airport. ¶For mile after mile a Spartan will fly itself without your help at the controls. And, quite as surprising, its cost of operation is only slightly more than that of the average motor car. ¶Whether you are considering a plane for business or sport, a cabin or an open biplane, there is a Spartan model to fit your requirements. And . . . regardless of where you live . . . a demonstration by a factory representative can be arranged without obligation. Write Department F for catalog in full colors showing all Spartan models. » » »

SPARTAN AIRCRAFT COMPANY
TULSA, OKLAHOMA

The Spartan cabin monoplane is powered with the Wright Whirlwind Seven. Standard equipment includes dual controls, metal propeller, booster magneto, electric starter, complete instrument panel, oleo gear, Bendix wheels and brakes, adjustable stabilizer, navigation lights. Spartan biplanes, fully equipped, are offered with the choice of » » » » » » either the five or seven-cylinder Wright Whirlwind engine. « « « « « «

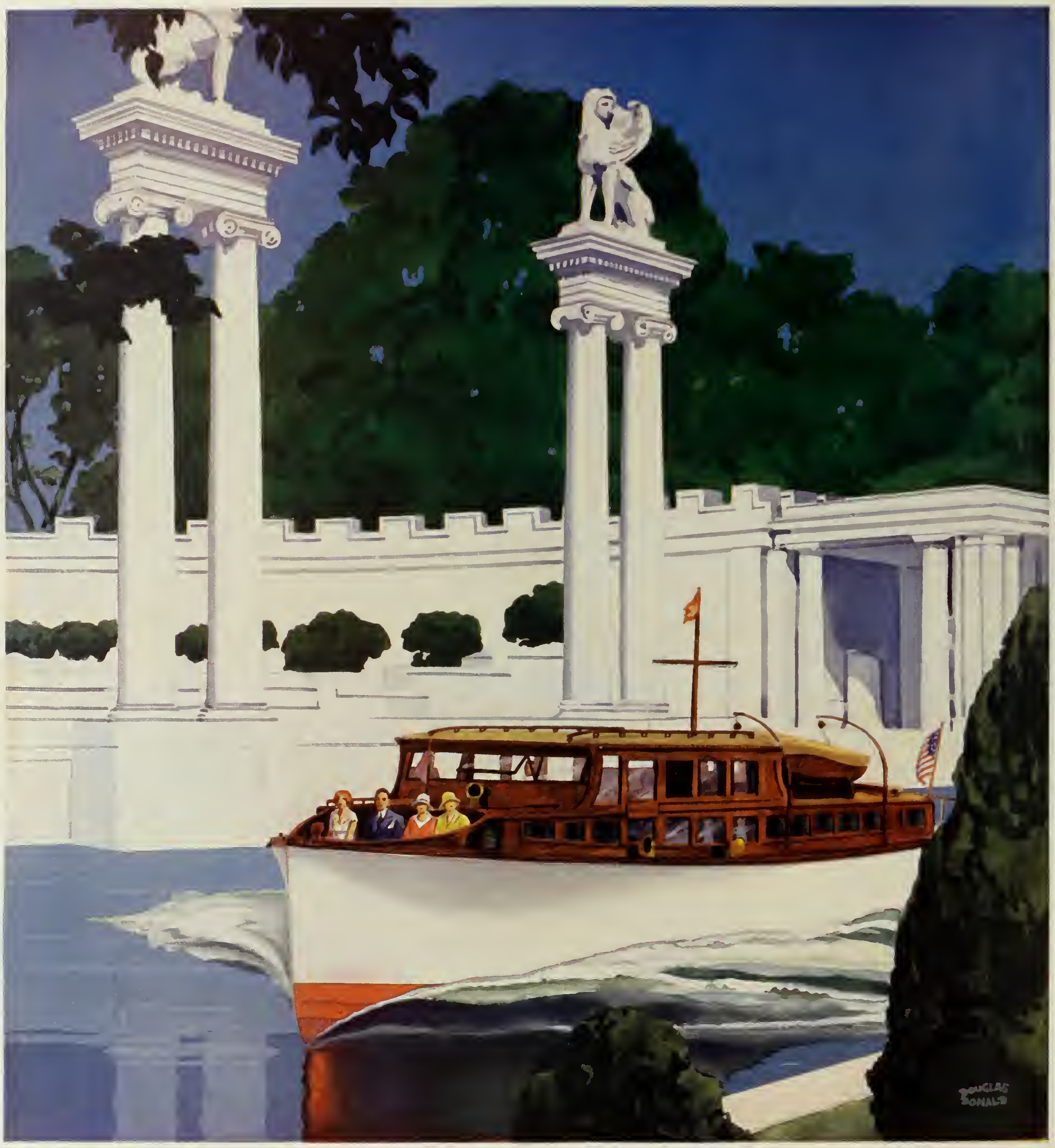


SURE-FOOTED

THE FIRESTONE SUPREME BALLOON is sure-footed—the strongest, safest tire ever built. Its rugged tread grips the road and provides safety against skidding—its Gum-Dipped cords provide strength and unfailing dependability at high speeds. ¶Here is tire equipment of ultra performance—freedom from troubles and insurance of long mileage. Supreme Balloons are appearing in ever increasing numbers on America's finest, fastest cars. The Firestone Dealer will gladly equip your car today.

Firestone
Supreme Balloon

Copyright, 1930, The Firestone Tire & Rubber Co.



The Record Breaking

FAIRFORM FLYER

56′ Fairform Flyer, built by Huckins Yacht Corp., Jacksonville, Fla. Equipped with twin Dolphin Special 6 cylinder Sterling engines 290 H. P. each, 1950 R. P. M.

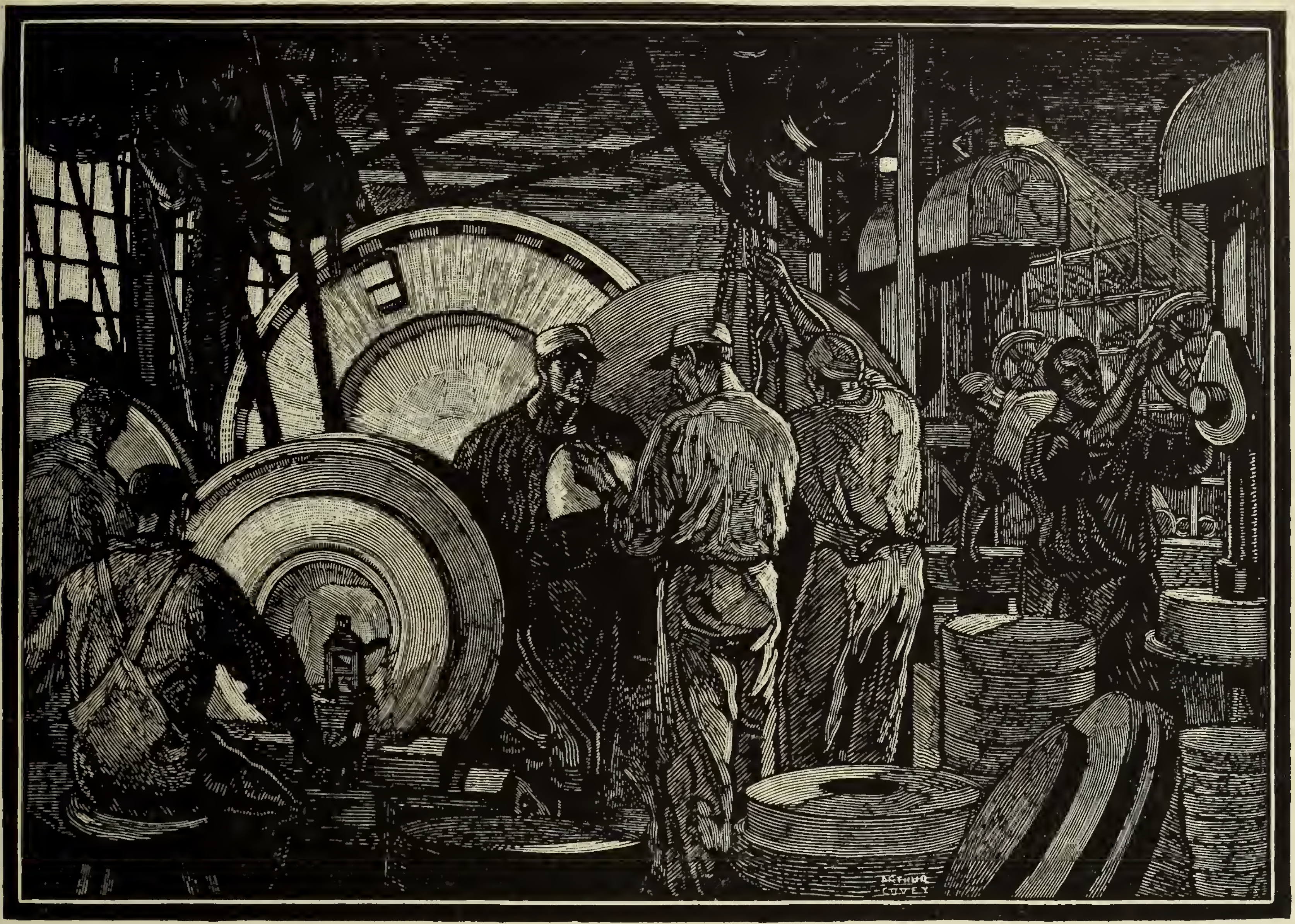
Modern in design and speed, equipped with established seasoned engines, the new Fairform Flyer suggests a late afternoon cruise—the antithesis of the lawn party of the 'eighties. Or, perhaps a week end journey of exploration—new scenery, open space, relaxation, and kindred terms, that prepare you for Monday with a feeling of having rediscovered America. . . . .

STERLING ENGINE COMPANY

BUFFALO, NEW YORK, U. S. A.

W. H. Moreton Corp., Distributors, Boston

Bruns, Kimball & Co., Distributors, New York



Wood block engraving by Howard McCormick from mural by Arthur Covey.

NORTON

Grinding Wheels
Grinding and Lapping Machines
Refractories
Porous Plates
Floor and Stair Tile
Pulpstones

MILLIONS of gems, precious stones — tiny cutting tools chemically like the ruby and the sapphire — bonded together to form a Norton Grinding Wheel. The point of a diamond or a tool of hardened steel shapes them to accurate dimensions and they are ready to serve the world in its conquest for precision with rapid production. Norton Company, Worcester, Mass.

The New York Trust Company

Capital, Surplus and Undivided
Profits $47,000,000

DOMESTIC
and
FOREIGN BANKING
FACILITIES

Trust Services

Personal Services

100 BROADWAY
40TH STREET AND MADISON AVENUE
57TH STREET AND FIFTH AVENUE

Why "52.7%" Had an Immediate Effect

ON BUYERS, DEALERS, SALESMEN, COMPETITORS AND THE ASSOCIATION

While "over 50%" Made No Impression

THIS is a report of a small campaign so forceful in its influence that the industry's Association requested that the copy, though true, be toned down.

$15,000 was appropriated by a national producer of a basic building material for local newspaper advertising in the market surrounding a new mill. Newspaper space was to be used, primarily in the smaller cities and towns, for a two-months' introductory campaign.

It was decided to make this a test case: To determine how much distribution and volume could be obtained at the minimum expense, and to find out whether a Sales Idea could actually create demand and thereby demonstrate that advertising on a basic material need not be mere publicity.

While the copy was in preparation, the strategy of the plan as a whole was developed. Each county was analyzed and assigned a value—based on its annual consumption. It was arranged that each salesman should release the newspaper schedule in local papers over the names of the local dealers who placed carload orders. Each advertisement listed in large type the important materials other than our client's product which the dealer sold.

A study of the product and the process of manufacture, suggested a direct comparison with the United States Government standard of quality. It revealed that this product averaged 52.7% higher than the Government standard.

This exact comparison was chosen as the basis of the copy plan—a simple fact which conveyed an obvious conclusion. It was illustrated with vertical bar charts, which supplemented and fortified the copy.

The salesmen took hold of the plan enthusiastically.

Within a few weeks, 150 carload orders were booked. Soon the newspaper advertisements appeared throughout the country...dealers became actively interested...buyers noted the facts presented...contractors, engineers, architects and public officials began to talk about the product...sales to consumers followed...reorders from dealers multiplied.

Note that the Sales Idea, *"52.7% above U. S. Government Standard"*, was accepted as a *fact*. The implications of this fact were left to the reader. He acted on his own inference, not the advertiser's.

A curious situation arose. The head of the national association visited the advertiser and urged that the copy, though true, be modified: *It was apprehended as a possibility that new rulings, raising the government standard to an unreasonable level, might result.* In addition, there were rumors that a price-cutting campaign might be instituted by a group of local mill owners who were aroused by the demand created by this copy.

The advertising staff was instructed to "soften" the campaign, to remove its sharp selling appeal. The figure of "52.7%" was thereupon changed to "over 50%". Immediately the force of the campaign abated. Demand fell to a fraction of its former strength. Word-of-mouth advertising decreased. Association officials and local competitors were satisfied.

THIS case illustrates the difference between "selling copy", which impresses the reader with its sincerity, and stereotype copy which is regarded as "advertising talk". Similar examples could be found in several notable campaigns of recent years, yet today the neglect of this principle undermines the effectiveness of many large appropriations.

In this organization the use of selling copy, as exemplified in the above campaign, is one of two major principles.

The other is strict adherence to a professional fee system of compensation which separates our profit from all normal variations in the client's appropriation and schedule.

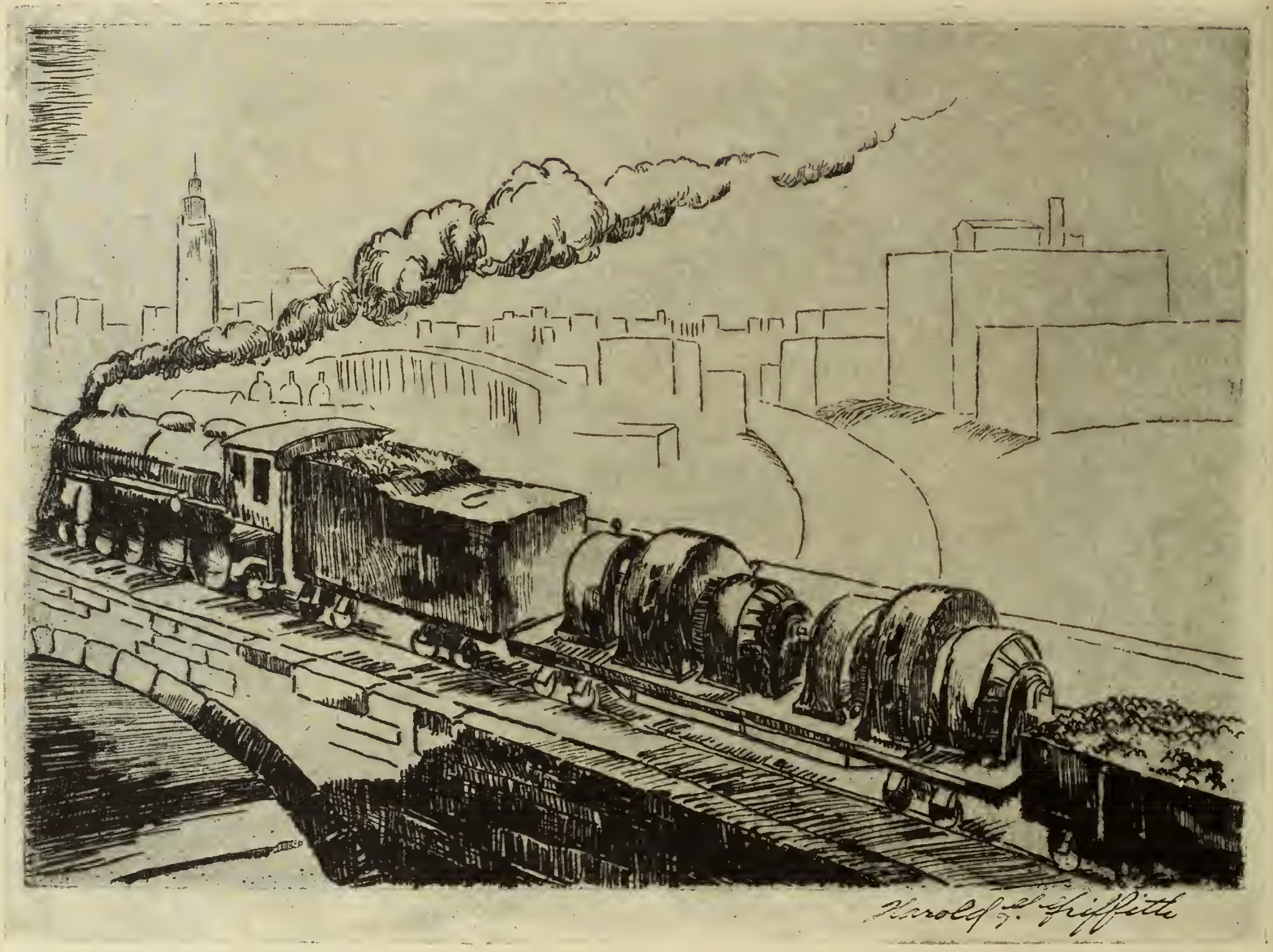
Seven additional examples of selling copy and a description of our fee system will be sent on request to interested bankers and business executives.

COWAN & DENGLER

ADVERTISING • MERCHANDISING • SALES COUNSEL

NEW YORK

IF YOU WANT
LOWER FREIGHT RATES



CLEVELAND, midway between New York and the Mississippi, gives minimum mileage for freight shipments in the world's richest industrial area. Every major decision of the Interstate Commerce Commission emphasizes this advantage. Mileage today is the largest single factor in calculating haulage cost.

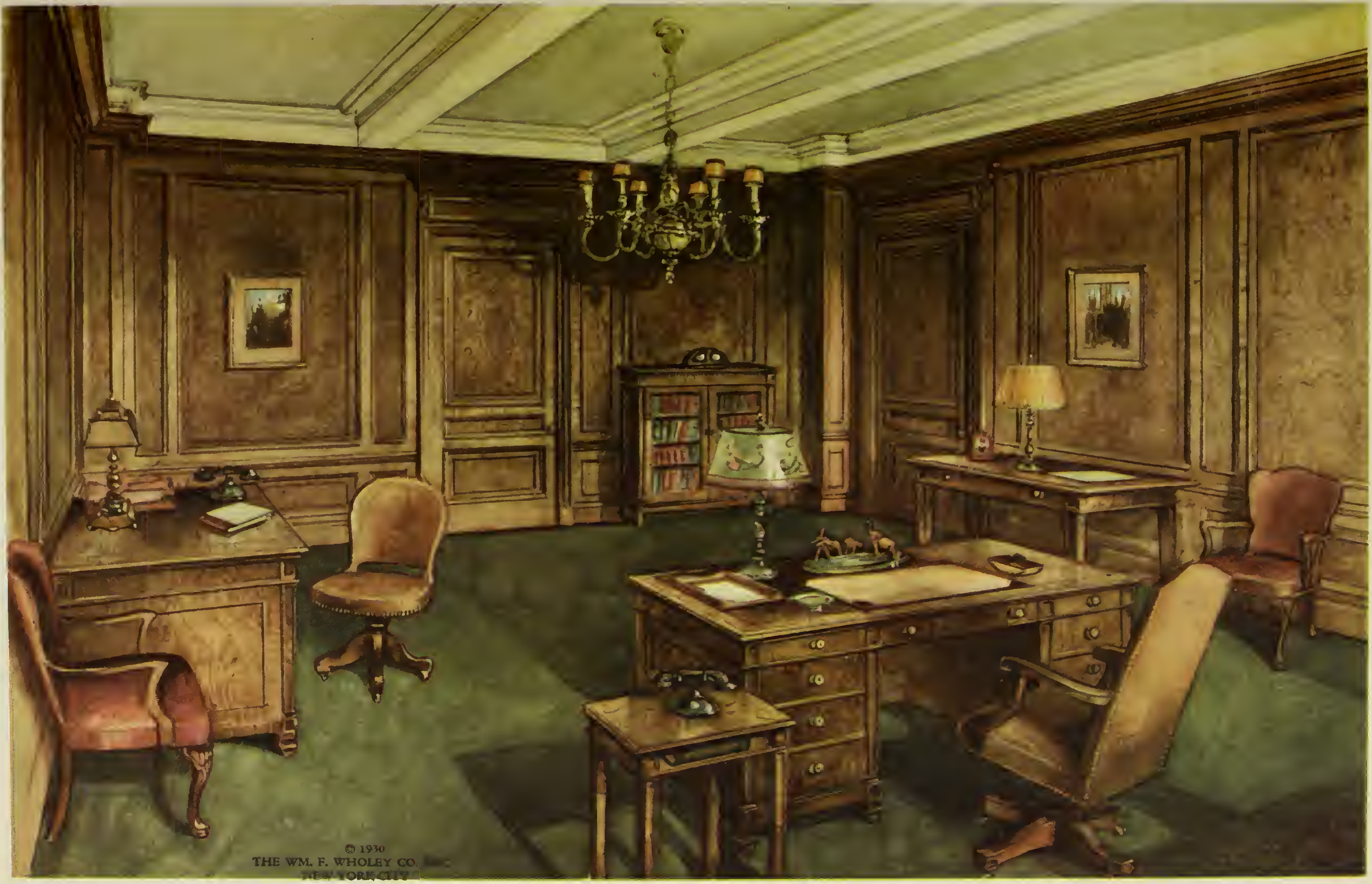
¶Cleveland's position on the Great Lakes assures water freight handling of package and bulk shipments at the lowest rates known in the United States. As the center of a 500 mile circle the rim of which includes Montreal, New York, Norfolk, Chattanooga, St. Louis and Davenport, Cleveland offers manufacturers and shippers a haulage saving that frequently means the difference between purchase of their goods and those of a competitor.

¶For specific data regarding this and the other nine prime cost factors in business, write this Bank.

©G. T. Co.

GUARDIAN
TRUST COMPANY
CLEVELAND, OHIO

RESOURCES MORE THAN $165,000,000


© 1930
THE WM. F. WHOLEY CO. INC.
NEW YORK CITY

Office of Gaston F. Balme, *Vice-President,* G. E. Barrett & Co., New York

IN this age of specialization, there has developed a notable organization that makes it *their* business to study the physical requirements of *your* business. The service of the William F. Wholey Company embraces the planning of office arrangement, designing of interior architecture and decoration, selection of furniture and equipment, and the execution of every detail, under experienced *unified* direction. The recommendations of this staff are based upon a study of the nature and probable development of your business, the inter-relations of your departments, your present and future personnel, and the personalities of your major executives who should have private offices befitting their various duties and their individual tastes.

The William F·Wholey Co·Inc·⟨*Equipment Specialists*⟩ 11 East 36 St· New York

Alfred Nelson Co

580 FIFTH AVE. N. W. Corner 47th Street NEW YORK

We are noted **for making the finest strictly hand-tailored to measure *all occasion attire* for *men* and *cross saddle* riding and hunting *kit* for *women.***

SW & Co
A NATIONAL ORGANIZATION FOR CONSTRUCTIVE SERVICE

Scovell Wellington
and Company

ACCOUNTANTS - ENGINEERS

10 East 40th Street, New York City

BOSTON CLEVELAND CHICAGO PHILADELPHIA
SPRINGFIELD SYRACUSE KANSAS CITY SAN FRANCISCO

ART IN INDUSTRY

In connection with the opening of their new first floor and the painting therefor of murals by Mr. Boardman Robinson, the Kaufmann Department Stores, Inc. of Pittsburgh, Pa. announces a prize essay contest on the subject "Art in Industry", the prize to be $1,000 and the prize-winning essay to be published in a forthcoming issue of FORTUNE. Among the judges will be Mr. Norman Bel Geddes, Mr. Joseph Urban, Mr. Edgar Kaufmann.

Rules of the Contest

(1) The Contest is open to anyone (excluding employes of Kaufmann Department Stores, Inc. or Time, Inc.) who submits an essay of less than 5,000 words which deals with some particular phase of or with the general subject of Art in Industry.

(2) The contest opened Saturday, May 31, 1930. All manuscripts must be in the hands of the Art in Industry Contests Editor, Kaufmann Department Stores, Inc., Pittsburgh, Pa., by midnight, Saturday, January 31, 1931. Manuscripts received after January 31 will not be considered.

(3) The prize-winning essay will be published in a forthcoming issue of FORTUNE.

(4) The essays will be judged by a committee which will include Mr. Norman Bel Geddes, Mr. Joseph Urban, Mr. Edgar Kaufmann.

(5) All manuscripts must be typewritten and have the name and address of the contestant in the upper left hand corner of each sheet of paper.

(6) Only one essay may be submitted by each contestant.

(7) Prize for the winning essay will be $1,000. In case of tie, each winner will receive the full amount of the prize. All information regarding the contest may be obtained from the Art in Industry Contests Editor, Kaufmann Department Stores, Inc., Pittsburgh, Pa.

(Signed)

Kaufmann Department Stores, Inc.
Fifth Avenue **Pittsburgh**

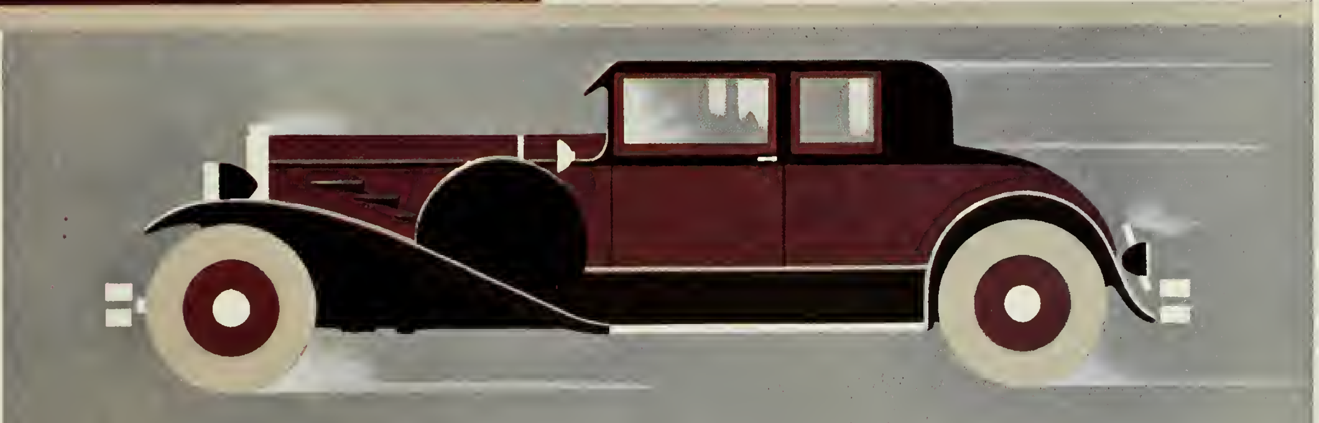
COROC

GAVE MOTOR CAR MANUFACTURERS A DISTINCTIVE FINISH FOR DISTINGUISHED MODERN CARS

COROC

IS THE TRADE-NAME OF A VARIETY OF FINISHES FOR SPECIFIC USES, PLEDGED ALWAYS TO DO EXACTING JOBS PERFECTLY . . . AND ECONOMICALLY

COOK'S products have solved some of the most difficult finishing problems in aviation and in the automobile industry, as well as in many other industries which are exacting in their demands for finishes that stand up longest under the most trying conditions. ¶ Such a product is COOK'S COROC maroon finish, which for the first time provides a sturdy, durable, solid-covering **maroon finish** needing no special ground coats, as formerly required, and fewer finishing coats than previously necessary. Thus a manufacturer can now offer a model in maroon finish at no higher price than for ordinary colors. ¶ The COOK'S COROC label appears on a variety of special finishes, each pledging to solve a particular industrial finishing problem well.



A NEW MAROON FINISH

DIFFICULT AS THE REQUIREMENTS WERE, **COOK'S COROC MAROON FINISH** HAS SOLVED A DIFFICULT AUTOMOTIVE PROBLEM . . . JUST AS OTHER **COROC** FINISHES HAVE SATISFIED A VARIETY OF USERS

COOK

PAINT AND VARNISH
COMPANY

Cook's paints, enamels, varnishes and lacquers long have proved **Best for Wear and Weather,** particularly to exacting industrial buyers requiring greatest serviceability, permanence and economy.

FACTORIES IN CINCINNATI, DETROIT, ST. LOUIS, KANSAS CITY, HOUSTON AND FORT WORTH ◆ ◆ ◆ BRANCHES IN PRINCIPAL CITIES

ON A WET STREET *and the other car* CRASHES THE LIGHT

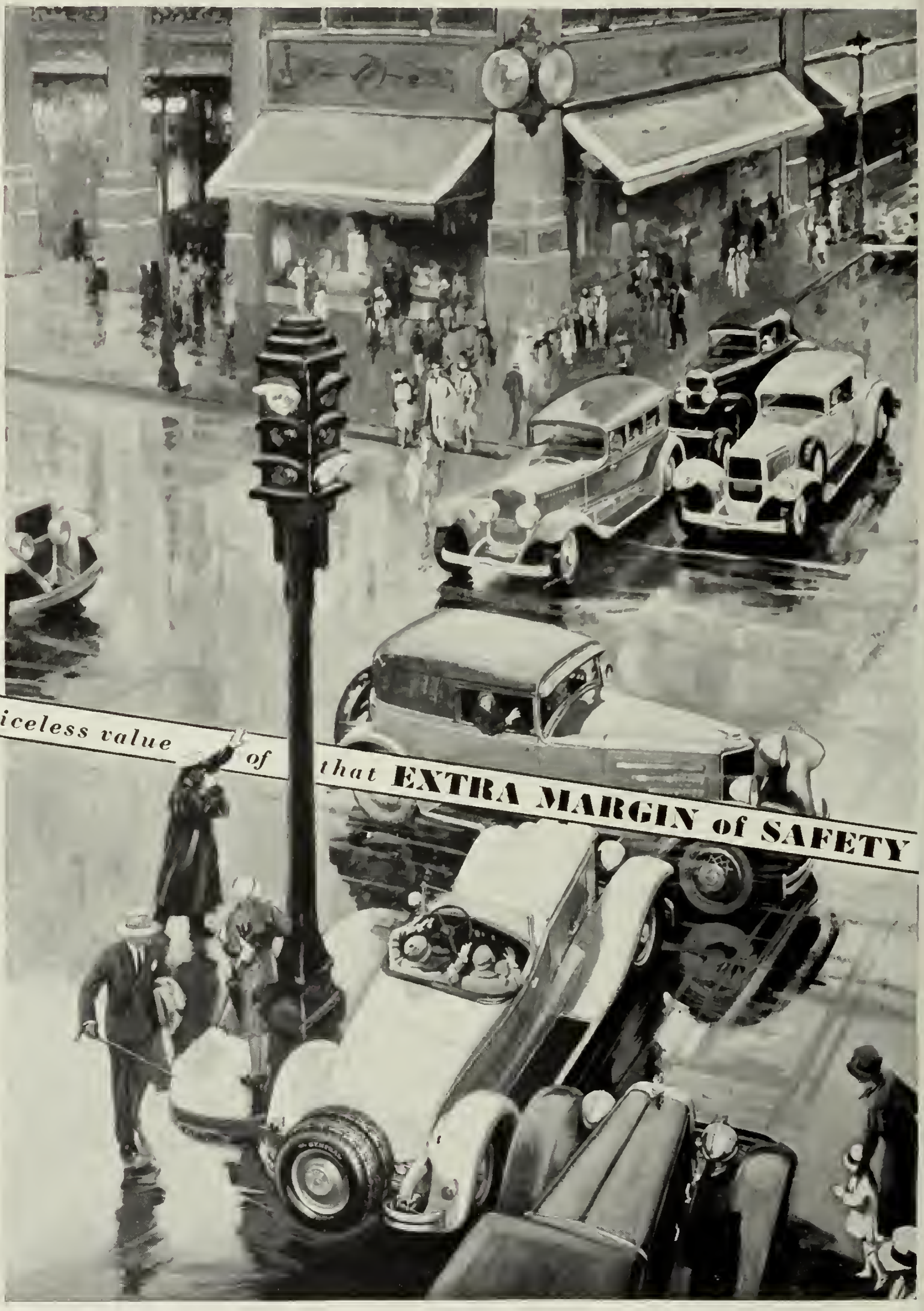
When a 10 foot stop will avoid an impact and 15 feet won't—that's when you want to know that you are on the tires that were made to hold in just such emergencies.

In those split seconds of tremendous strain, when the full responsibility for your safety rests on rubber, you fully realize the priceless value of that *extra margin of safety* in the *Dual*-Balloon.

Inside the *Dual*-Balloon are extra plys of soft cushion rubber. These built-in shock absorbers plus the lower pressure lets the whole tire grip the road with a closer clinging, double traction.

These softer riding features in the *Dual*-Balloon mean something more important than the physical comfort of easier riding. Combined they mean the full measure of safety.

Split seconds that make you realize the priceless value of that **EXTRA MARGIN of SAFETY**



Safety in the freedom from running on risky rubber at high speeds. Safety in the ability to negotiate a sudden turn at straight-on speed when there is no alternative.

Safety in the ability to take hold and stop *just short* of an impact . . . *Skid-Safe!*

—goes a long way to make friends

20,000
40,000
60,000

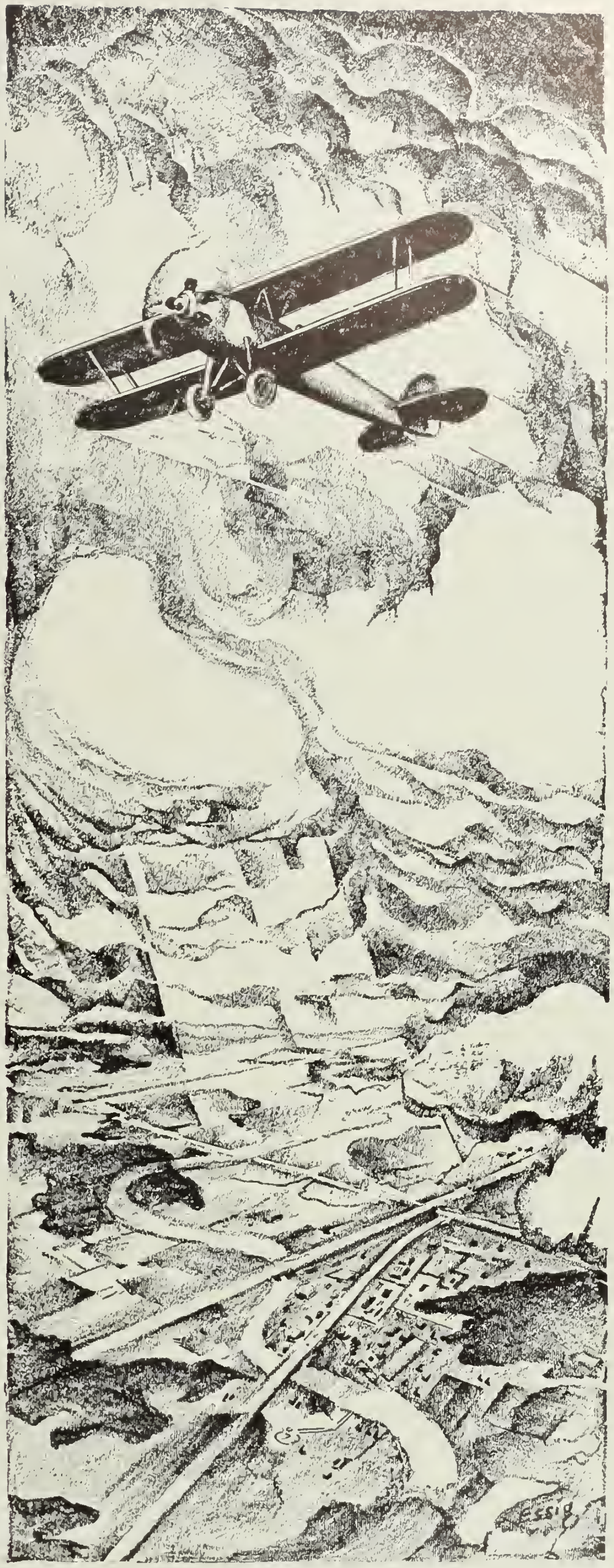
Complete motion picture films (including slow motion detail) showing a series of non-skid tests of all types of tires on snow and ice and on wet pavement, will be furnished Automobile Clubs and other organizations for use in safety first campaigns. Car owners can obtain illustrated bulletins of these tests. Address your General Tire Dealer or the General Tire and Rubber Co., Akron, O.

THE WORLD'S SAFEST TIRE

The **GENERAL** *Dual*-**BALLOON** *8*

Fly ONCE IN A KINNER POWERED PLANE

THEN YOU WILL REALIZE HOW PRACTICAL IT IS FOR YOU TO OWN ONE



. . . The Kinner 5 cylinder aircraft motor is available in two sizes . . . 100 h.p. 125 h p.

HERE is a vacation plane that makes New Brunswick or Bar Harbor an afternoon away for the New Yorker. Fly high over traffic, you will return refreshed, relaxed, ready for work ¶ In business too, *if time means anything,* you'll find one flying day will equal three of ordinary travel. The things you can do in a Kinner powered plane are as limitless as the sky itself. The places you can go depend only on the time you wish to take, for every hundred miles is a bare 60 minutes long. Figure it out as you fly ¶ Leading aircraft manufacturers have designed planes powered by the Kinner motor ranging in price from thirty-nine hundred to seven thousand dollars. All can be operated with the same economy you now run your car. Why not own one?

KINNER AIRPLANE AND MOTOR CORPORATION
GLENDALE CALIFORNIA

KINNER
AIRPLANE MOTORS

CAUSE

Faith precedes works; and in faith of the eventual usefulness of lighter-than-air transport, Goodyear some eighteen years ago first began to build balloons.

It was a brave undertaking for a company as new and as small, comparatively, as Goodyear was then. For many years there was scant reward except for victories in balloon races on both sides of the Atlantic.

But from the lessons of those early endeavors, and the faith on which they were based, Goodyear has gone steadily forward in its work of serving the future needs of the national defense and of transoceanic commerce by air.

Goodyear has already built 1,051 passenger carrying balloons, 123 airships of all types, and is now operating the largest airship dock and factory the world has ever seen.

P. W. Litchfield
President

GOOD

Volume II

Fortune

Number 2

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BURLINGAME
PUBLIC
LIB.

for September

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Simmons Bed · · · · Swimming Pools · · · · · Anti-Trust Law · · · · Lace
Newspaper Pictures · · Rubber (Men & Companies) · · Skyscrapers · · · Canadian Pacific

Editor, Henry R. Luce; Managing Editor, Parker Lloyd-Smith. Associates: John Shaw Billings, Margaret Bourke-White, Washington Dodge II, L. S. Goldsborough, Wilder Hobson, Florence Horn, Alan Jackson, E. D. Kennedy, Dwight Macdonald, John S. Martin, Eleanor Treacy. FORTUNE is published monthly by TIME, INC.: Henry R. Luce, President; Robert L. Johnson, Roy E. Larsen, Vice Presidents. Publication Office, 205 East 42nd St., New York City. Yearly subscription rate, $10. Single copy price, $1. Business Manager, Charles L. Stillman; Advertising Manager, F. Du Sossoit Duke.

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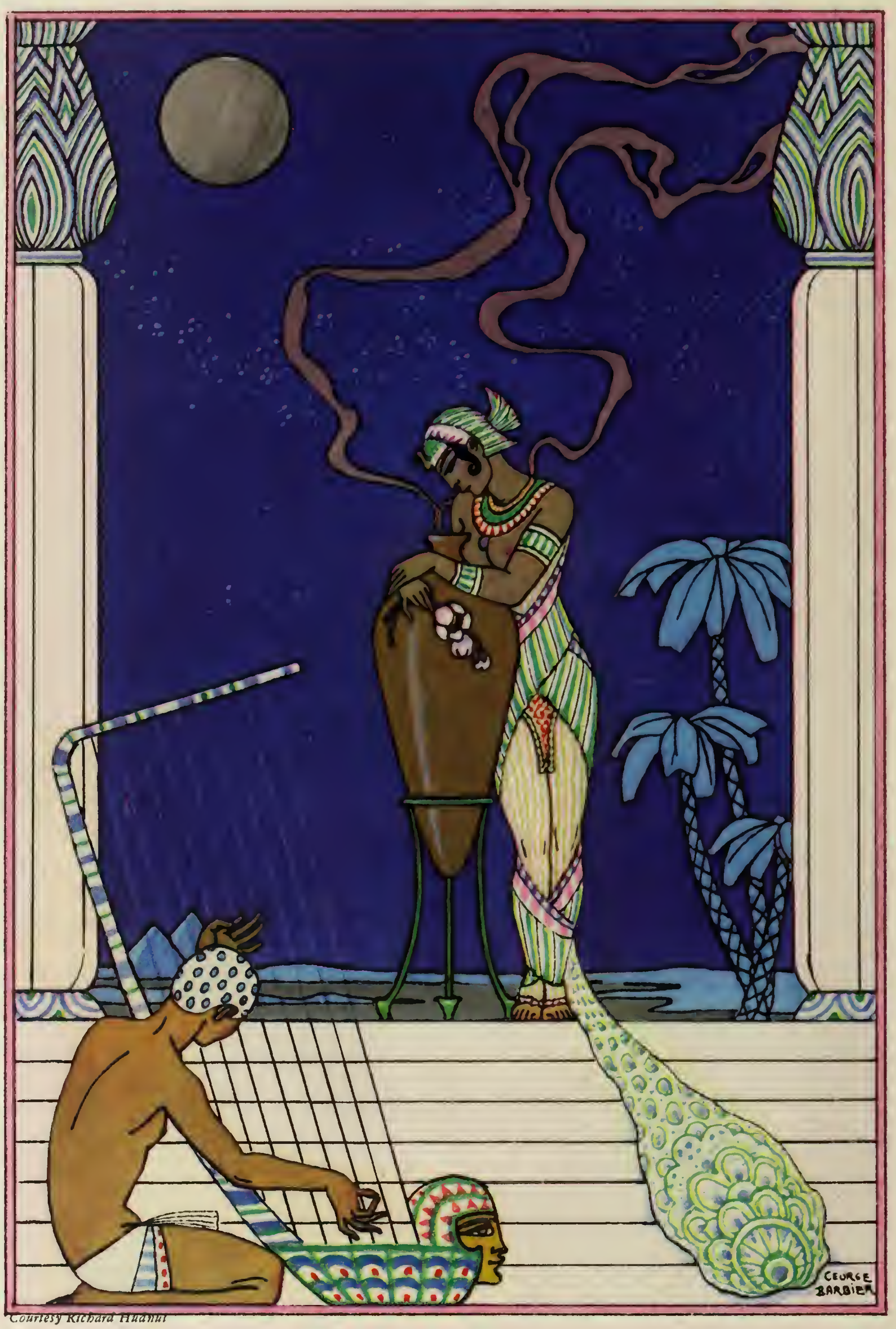

GEORGE BARBIER

Courtesy Richard Hudnut

PERFUMERY WAS A MATURE ART IN THE TIME OF THE PTOLEMIES. "EGYPT" —A GEORGE BARBIER DRAWING FOR A HUDNUT BROCHURE

Cosmetics: The American Woman Responds

To an infant industry which here passes in review. It sells beauty, delivers good looks. Statistically exaggerated, its future is nevertheless in the billions. How it concerns Home & Husband. The advertiser's study of desire.

WHAT sort of woman does a man want? Limit the question. Ask: "How does the average American male want his woman in the year of grace 1930?" He does not want her beautiful. Such a dogmatic statement may seem incredible, but the evidence is overwhelming.

There is scarcely a beauty to be found in the current fiction of the *Saturday Evening Post*. There used to be. When Editor George Horace Lorimer was younger and corsets were in flower, he satisfied the sublimated desires of American manhood by a raving, stunning, spotless, golden beauty several times per issue. Now, however, his stories read: "Mary couldn't honestly be called beautiful . . . A mouth too big for beauty . . . turned up nose . . . swims three miles . . . But somehow every masculine eye turned toward her as she entered the room."

Yet nothing is newer than the beauty business. Unnoticed, or at least unmentioned by Presidential Candidates reciting the story of U. S. prosperity, the beauty business has swept the country in the last decade with a speed and volume no less astounding than radio, refrigerators, or road-building. It is definitely an infant industry. Nor has its progress been merely the obscure racketeering of designing or desperate women who set up beauty shoppes. It has been capitalized on Wall Street. It currently provides the principal revenue of American magazines. And Macy sells three items of cosmetics for every pair of shoes.

De Barron

ZIEGFELD CHOSE THIS BEAUTY . . .

What, then, is this beauty business? In the first place it is big, but not nearly as big as it is thought to be nor as big as, in all probability, it is soon likely to become. Those who desire a true understanding of America must reflect that we have more automobiles than bathrooms. Similarly, not more than one woman in three uses a tooth brush. Something more than that use powder —probably 15,000,000 out of 40,000,000 women of powder age. (Sears, Roebuck powder sales are double its tooth paste sales.) Roughly we may say that some 10,000,000 or 11,000,000 spend less than $30 a year each on their looks (including teeth). Thus the beauty business principally concerns some 4,000,000 women who probably average more than $100 per year. Nor is this business as big as beauticians themselves claim. These ladies and gentlemen are addicted to purple superlatives and can scarcely be expected to give a reasonable account of their affairs. They allude to their skin treatments as "utterly unique." They describe a new scent as "breathing the ambrosial glory of the ancient gods and goddesses." Similarly they like to inject the phrase "$2,000,000,000" into any discussion of their activities.

This $2,000,000,000 is an appalling exaggeration. Let us leave the beautician's extravagant dream world. If he were not given to rhetoric he could be quite impressive with the simple, honest statement that the United States has become in the last decade by far the largest producer of toilet preparations in the world. Despite the fact that no laboratory has ever devised methods which will

(1) really remove wrinkles or rejuvenate;
(2) really prevent shiny noses;
(3) really grow hair or remove it permanently and inexpensively;

the total wholesale value of perfumes, cosmetics, and other toilet preparations produced in the United States in 1929 was about $250,000,000. Add 50 per cent to this figure for distribution and profits, then double that total to account for personal services rendered by beauty shops, and you will arrive at an approximate fiscal symbol of the U. S. beauty business—perhaps $750,000,000, of which, probably, more than half is spent by some 4,000,000 out of America's 40,000,000 women. That should be enough for beauticians to brag about. But they will ever be hyperbolical.

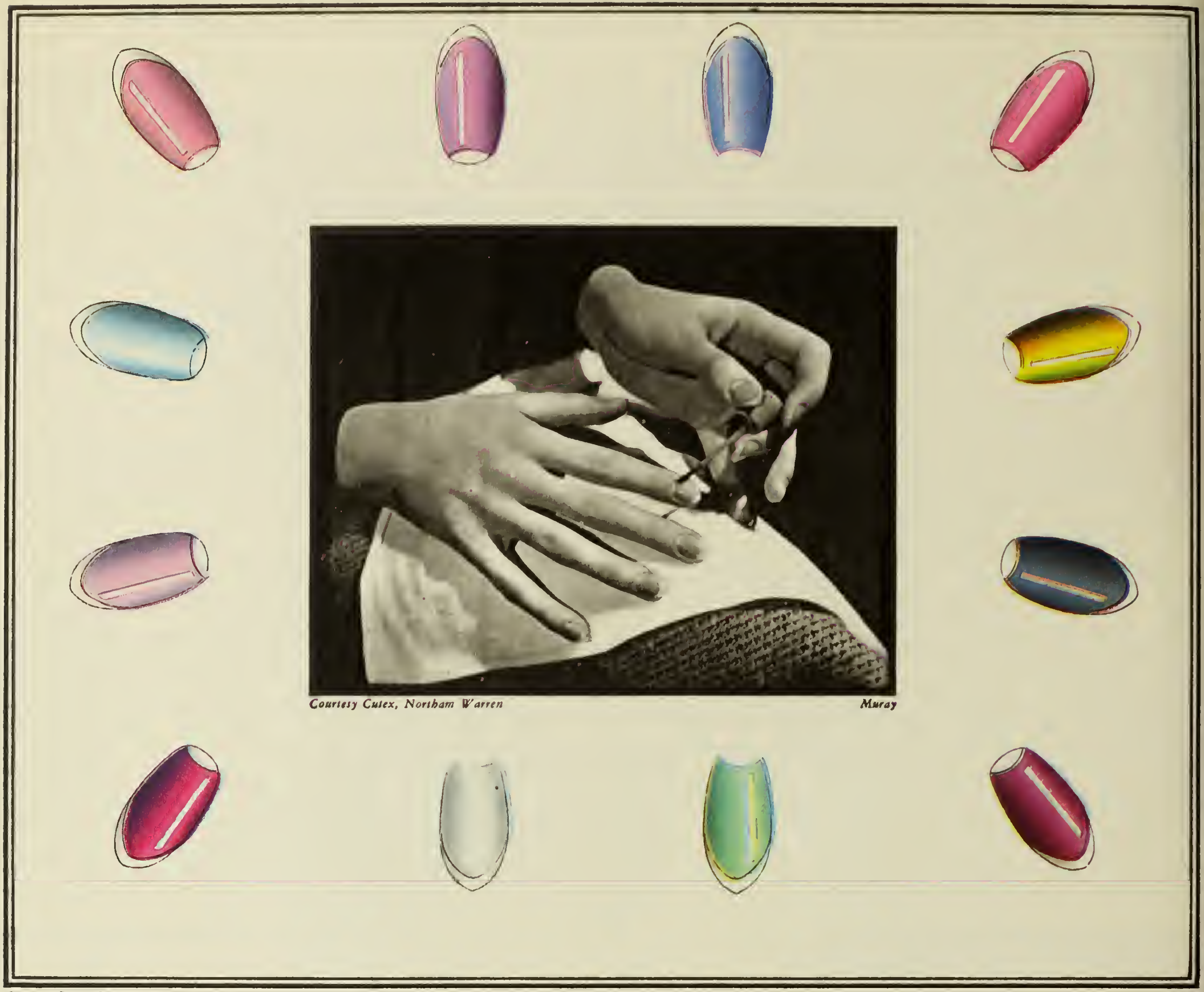
But why should women rush to beautify themselves at such cost at the very time when men for whom they wish to be beautiful have evidently abandoned the cult of Beautiful Women?

This paradox is easily reconcilable. Men have merely become reasonable in their demands at the time when reasonable demands may be satisfied. Men want women, not beautiful, but good to look at. Beautiful women are not available and, by definition, never were and never will be. The women of Keats and Shelley and Tennyson and Rider Haggard and Richard Harding Davis are fairy tales which occasionally come to life. On the contrary, a man may reasonably expect a woman to be good-looking. And it is the business of the beauticians to serve and to exploit women's national desire to satisfy this reasonable demand.

Actually, as observed above, few women do anything about making themselves more than presentable, if that. But many more

International

. . . THE CONGO TALKS OF THIS



Courtesy Cutex, Northam Warren

Muray

Courtesy Peggy Sage

Liquid polish tints which may be applied to the finger-nails or, if one be beach-bound, to the toenails

do so now than ten years ago. And for this the beautician, with all his hyperbole and charlatanism, must be given credit by a grateful nation.

But not all the credit. Not even perhaps most of it. Health is the Great Beautician.

The latest big development in the beauty business is the recognition of this fact. The commercial beautician has gone over to Health bagpipe and baggage, loudly advertising Health as an ally and not a rival.

But while women have improved in looks by reason of the health-factor in American civilization, there have been other factors inimical to looks. The greatest is dirt. In New York or Chicago a clean face is rare. Soap and water are good cleansers, but it is easy for a woman to soap and scrub less than she ought to. The introduction of face-cleansing creams made women more conscious of the dirt on their faces. So, although soap is now as strongly advocated as cream, the cosmetician must be given credit for making faces cleaner whether by soap or cream.

Taking one step nearer "beauty," we come to the matter of Skin & Complexion. The American climate—dry, bright—is hard on both. Mist is good for complexions. Since the *Mayflower* the complexions of Americans of Anglo-Saxon extraction have become for nearly three centuries worse and worse. Now they are getting better. Health, of course, but also the beautician with his creams and face patters. Ask any old lady. She will say her granddaughter has better skin and complexion than ever she had. California, dry, sunny, is fullest of health—and fullest of cosmetics.

Having noted these few fundamentals, let us venture a few dogmatic statements concerning the development of the business.

The soul of the business is Advertising. The nature of this advertising is described on page 41. Here we may note that while some harmful preparations still exist, most of the unreliables have been driven out of business by national advertisers. The success derived from advertising one product has induced the development of a "line." Thus we shall see on page 35 how Coty began with perfumes and now includes nail polish. But the invention of new products is only part of the Advertiser's ceaseless study of desire. Noting suspicion in many quarters, the advertiser has gone out for medical support and got it. Noting that women are busy, the advertiser has developed preparations which the woman can manipulate in the fewest possible minutes. Noting that the heavy exoticism of the past few years is giving way to femininity as expressed in longer skirts and hair, the advertiser puts forth floral odors instead of oriental musk and amber.

This blue eye shadow and the raspberry lipstick underneath . . .

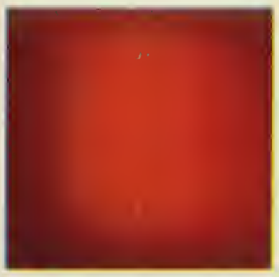
. . . and the lavender powder below which looks white by night and . . .

. . . this flame-tinted rouge are intended for the blonde who emerges at night in pastel chiffons or black satin.

A gypsy-tan face powder and an accent of tangerine for the cheeks of the lady who (*continued below*) . . .

Courtesy Pond's Extract Co.

. . . appears outdoors. Rubinstein also recommends, for her, brown eye shadow and a modest lipstick. With these, she will seem an inveterate country week-ender.



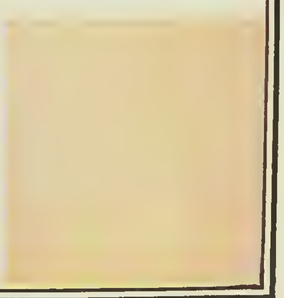
In the evening the brunette shadows her eyes with green and . . .

. . . touches her lips with geranium. She uses a greenish powder and a . . .

. . . rouge matching her lipstick, as stick and rouge should always do.

Below is daytime make-up for those persons who are neither blonde nor brunette. It includes gray . . .

eye shadow, raspberry lipstick, and rouge with "Mauresque" powder—yellow rather than pink in tinge.



ake-up courtesy Helena Rubinstein

Astounding as it may seem, with all the elaborate and even ridiculous paraphernalia which has been created, the great word in cosmetics today is "naturalness." Cosmetics that look like cosmetics are no longer chic. Sun tan is dead. By the same token, lurid nail polishes are not likely to get anywhere—although America will certainly become, as never before, nail-conscious.

Along with "naturalness" comes "individuality." This is used to suggest that there are countless cosmetic possibilities, depending on the individual, and that only the high cosmetic priesthood can make them manifest. A priesthood thoroughly French in everything but fact. Thus the significant unit in the contemporary beauty business is the advertising office, intrusted with the maintenance of these psychological quintessentials.

Organization and exploitation are seen to have been primarily responsible for the burgeoning of the business. Not long could Wall Street ignore an industry, however sissified its implications, which annually dispenses in the United States some 2,000 tons of rouge, 4,000 tons of face powder, 6,000 tons of bath salts, 8,700 tons of vanishing cream, 9,000 tons of complexion soap, 17,000 tons of nourishing cream, 26,000 tons of skin lotion, and enough cold cream to displace the *Berengaria.*

Since 1922 U. S. cosmetic exports have exceeded imports, although the country exports only about 5 per cent of its production. France is still the leading exporter, disbursing twice as much as the United States. But it produces only one-half the amount, and the United Kingdom only one-eighth. Despite its proximity, Latin America acquires only some 25 per cent of its importations from the United States. This condition might be altered most favorably by one who could successfully combat the appeal which French goods make in these areas, the excellent credit terms allowed by French and German salesmen, and the local antipathy toward the United States.

Proud though an American may be that in the last decade the United States has outdistanced France at her favorite game, so great a future remains in the domestic market that the U. S. cosmeticians can afford to wait a few years before conquering the world. For surely Destiny is with them. They have on their side the heart's desire of 40,000,000 countrywomen. For rouge and lipstick (always in "individual" shade) are no longer concerned with the painted woman and man's baser passions. Nor do they serve merely to fetch a boy friend. The strongest cosmetic appeal today is: "Hold your husband." Which is to say that rouge and perfume, eye shadow and cream have become, in a word, the foundation of the Home. First to get a husband and then to keep him—if that be the function of cosmetics, then, indeed, what will American womanhood not pay per capita per annum? "A $2,000,000,000 business"—is it, after all, a reasonable forecast rather than an appalling exaggeration?

The Lure of Perfumes

Flowers & Whales & Deer provide woman's first and still most subtle accomplice. Gardens, nightingales.

IT WAS the peculiar boast of the late Lafcadio Hearn, Greek-Irish professor of English literature in the colleges of Japan, that he could smell the difference between a blonde and a brunette. This feat is quite beyond the capabilities of the average man, but one should remember that Mr. Hearn's eyesight was impaired and that the delicate, quivering nostrils which he inherited from his father were undoubtedly impelled to a compensatory activity. One should also bear in mind that olfactory adepts have long ago established the fact that the human body emanates seven separate odors, varying according to races, colors, and possibly creeds. (There is, we are told, the "odor of holiness.") In view of this, Mr. Hearn is not only absolved from any charge of braggadocio, but his achievement even loses something of its wonder.

Most persons, however, will rightfully regard it as a startling example of the sense of smell. No other sense has been so neglected. None is so generally unappreciated. The poverty of the average person's olfactory vocabulary proves this point. While innumerable adjectives are used to describe sight, sound, taste, and touch sensations, practically every nasal sensation is received with such generalities as "That smells good" or "That smells bad." Perhaps because the normal nose is not very apprehensive of fragrances but is keenly aware of stinks, the sense of smell has even acquired a certain disrepute. The person who reveals himself as an acute and active sniffer is apt to be regarded as somewhat indecent.

Yet everyone should be more than vaguely aware that the natural and the erotic pleasures are inextricably bound up with the sense of smell. Appreciated or not, it contributes vastly to man's stimulation and should therefore be recognized and cultivated as much as his other sensory equipment. The sea without its tang of salt would be vastly less exciting, and the shimmering hair of women adds to its tactile and visual seductions its characteristic scents.

These are elementary effects, obvious and appealing to anyone who will submit himself to them. They merely suggest the possibilities of odor, varied like the moods of music. And, like music, superior odors must be devised by an artist. The perfumer is that artist. He is, you will observe, the *only* artist working exclusively with the sense of smell. As such he is the most dignified figure in the beauty business.

The art of perfumery has undoubtedly been the subject of more prettified writing than any other human endeavor. This is due largely to its romantic implications and the euphonious names of many of the substances involved—patchouli, saffron, spikenard, bergamot, mimosa. "Let us surrender ourselves," sighs Richard Le Gallienne in a Hudnut brochure, "to the incantation of the mere word—perfume—for it is in itself a veritable attar of all the romantic experience of humanity. In it as in a little glass vessel

MATCHABELLI, THE PERFUMING PRINCE (ON EXTREME RIGHT), IS SEEN WITH CARL VAN DOREN, H. P. ("RUDY") VALLÉE, JAMES M. FLAGG charged with the distilled essence of the souls of the moonlit roses of a garden in Shiraz, wherein, too, the songs of the Shiraz nightingales have become mysteriously blended, are locked all the perfumed memories of Time." And M. François Coty of the great house of Coty rhapsodizes: "Fragrances there are that tantalize, entreat, caress—others that sing of conquest and triumph—some that send up the incense of worship and some that sigh of infinite sadness. She whose entangling charm disturbs the sons of men will give it richer allurement in her choice of perfume—and she whose soul is questing will surround herself with the fragrance of inspiration. But delicately, delicately it must be done. Faint perfume in the hair, on the tips of the ears, a dash across the lips and hands, and sprayed on the garments—sachets in the apparel, the lingerie, chiffons, laces, handkerchiefs and gloves—fragrant powders for the face, the body—and each accent in the same lovely odeur blends into one swirl of fragrance that seems the soft and warmly sweet breath of the body itself." A favorite device of the blurb writer is to portray the toiletries of such historical and be-scented dames as Cleopatra and Marie Antoinette. This makes for heady prose, but sheds little or no light on the actual procedure of the perfumers.

The art is ancient. For in his Song, Solomon declared: "I rose up to open to my beloved and my hands dropped with myrrh, and my fingers with sweet smelling myrrh, upon the handles of the lock."

Flowers of Grasse

The natural elements of perfume manufacture have no more changed since Solomon's day than have the flowers and other vegetable matter from which they are derived. Artificial elements have been increased in accordance with chemical development. And it should be noted that not a scent sold to the public today is composed exclusively of natural extracts. But if you were making a perfume, you would begin with the flowers themselves. In the town of Grasse on the French Riviera, for example, there are shining perfumer's meadows of roses and jasmine, cool terraces of lavender and violets, orchards of orange trees dedicated to smell rather than taste. Amidst these are essence factories whose floors are heaped with blooms. The bodies of the natives and the breezes in the village reek with the breath of a billion blossoms. Annually Grasse utilizes more than 7,500 tons of flowers in the extraction of essential oils, which are products of plant metabolism variously derived from the flowers, leaves, stems, or barks, depending on the plant.

If you wished one pound of rose essence you would have to pick 500 pounds of roses. You might extract the essence by various methods. You could boil the roses until the essence passed off in steam (distillation). You could extract the essence from fats in which the roses had been bathed at a cell-shattering temperature (maceration). You could get the most valuable essence—absolute flower oil—by the volatile solvent method. In this system petroleum ether is filtered through the flowers in a series of hermetic cylinders, the last leading to a vacuum still where the ether is distilled off and used over again. The perfume remains in the still in the form of a "concrete" (perfume plus plant waxes). The concrete is shaken for hours in an apparatus called a "batteuse"; the perfume and some of the wax dissolves; the insoluble wax is filtered out. The perfume is then separated from the soluble waxes in an alcoholic freezing mixture, and the absolute flower oil removed from the perfumed extract by distillation in a vacuum. Some absolutes thus produced are worth $25 an ounce.

By these three methods—distillation, maceration, volatile solvents—you could extract the oils of most flowers. But if you were working with jasmine or tuberose you would spread their petals between glass plates coated with beef and pork fats which would absorb the essence (enfleurage). And if you wanted fruit essences you would obtain them by pressing the peels against sponges (expression) or rolling the fruits in hollow, spiked vessels which would collect the essence from the broken cells (ecuelle method).

Let us now assume that you have extracted some rose essence. But a perfume must contain something besides the sweet, nostalgic exhalation of flowers. It must have a pungent, vitalizing element, which might be described as masculine, to stimulate and emphasize the floral femininity of the natural oil. You will get this element by using certain animal extracts about which the perfume copywriter says very little. He uses their glamorous names—musk, ambergris, civet, and castor—but he neglects to tell their derivation.

Ambergris, musk

And no wonder. If you want ambergris, for example, you must concern yourself with diseased whales. For this beautifully named substance is a calculus, like a mammoth gallstone, produced in the intestines of a whale which has acquired an intestinal complaint from eating too many fish. To get your ambergris, however, you may not have to disembowel a whale, as the mammals frequently expel the ambergris, which is later found afloat in the sea. The *Encyclopaedia Britannica* tells of one piece weighing 248 pounds which was valued at $66,000.

Perhaps you would prefer to tinge your rose essence with the odor of musk, so ancient that the details of its discovery are not recorded. In this case you must join the Chinese hunters who stalk the Himalayan and Atlas plateaus. The cloying, Eastern, aphrodisiacal scent of musk, rightly termed a masculine element, consist of a dried secretion from the preputial follicles of the male musk deer. The hunters remove and dry the entire sex gland, or musk pod, which they send eastward to be marketed on the China coast. You can obtain castor by a similar procedure with Canadian or Russian

M. GUERLAIN IS FAVORED BY WALES

M. GEMINET IS A PERFUME INVENTOR

MR. LEVY *IS* THE EXPENSIVE YBRY

Parfums de France

IN ESTEREL, ON THE RIVIERA, THE JONQUILS BLOW. SOON THERE WILL BE CARNAGE—SWIFT PICKERS AND PROCESSES WHEREBY THE ESSENCE OF THESE BLOOMS WILL BE EXTRACTED AT A VALUE OF $25 THE OUNCE

beavers, and civet by collecting a glandular secretion of Abyssinian civet rats.

But even with rose essence and animal extract, you would not have a satisfactory perfume. Essence is very expensive, and there is very little reason why you should not use it sparingly, reinforcing it with the cheaper synthetics. Science has been very successful in artificially synthesizing the aromas which exist in nature. The chemicals rhodinol and geraniol acetate, combined, for example, admirably simulate the rose. Among the others are methyl heptine carbonate, which has the odor of violets; phenylacetic aldehyde, a product of cinnamic acids which fills the air with hyacinth; d-cresyl phenylacetate, from coal tar liquors, which smells like narcissus. There is also a substance called benzylidene acetone, which doubles for sweet pea, and one called gamma undecalactone, which smells like peaches. If you wish to accent your perfume with scents which have never been discovered in nature, science has devised and is devising many splendid originals.

And now only one element is lacking. You have a combination of natural floral essences, natural animal extracts, and synthetics. If this were all, the mixture would soon evaporate. To guarantee that your perfume will be lingering you must add balsams, gums, or oleoresins, which act as fixators by retarding evaporation. You might use benzoin, extracted as a sap by incising the bark of Siamese, Sumatran, and Japanese trees, or labdanum, a secretion obtained by the volatile solvents method from the leaves of the rock rose family, or storax, a balsam from the trees of Asia Minor.

Of these diverse substances, fetid or sweet, sharp or langorous, remote or commonplace, as old as feminine guile or as new as aviation, perfumes are compounded. They may be divided into several general classes; heavy oriental perfumes in which musk or ambergris are important; floral odors, in which the scent of one flower is predominant; bouquets, which are what the name implies. Manifestly, their manufacture requires boundless technical knowledge and experimentation. They offer opportunities for sensory achievement far above the perfumer's generality that heavy perfumes enhance brunettes and the lighter odors are adapted to blondes. For the master perfumer is quite willing that his art, tenuous and arcane, should be primarily devoted to love. But he keeps the belief that his, like all others, is an art of numberless significances. He wishes that more were equipped to perceive them. Occasionally a representative of one of the other arts has done so. There was Baudelaire. And there was Huysmans, whose hero Des Esseintes in *À Rebours* conceived, among other things, that the history of fragrances followed that of the French tongue.

Enter, America

If the art of perfume is old, so too is the business thereof. In the earliest days, the priest profited from his jealously guarded knowledge of aromatics. Later, as the demand increased, the perfumers began to import and export, and wily Carthaginians took spikenard from Arabia and myrrh from Egypt in their galleons to Trajan's court at Rome. In 1190 the first association of perfumers and glove-makers was registered, and by the middle of the 16th century manufacture began in Grasse. In 1750 there were 250 perfumers in Paris, and under Napoleon (whose habit it was to douse himself with a bottle of eau de cologne after every bath) the perfume production attained a value of 12,000,000 francs annually. By 1830, many great houses flourished: Guerlain, Houbigant, Roger & Gallet, Pinaud, Yardley. All through the 19th century they peddled perfumes and toilet waters to the upper reaches of society, to actresses and women of the town. They used, as they do today, roses from Bulgaria, bergamot, lemon, and orange from Italy, lavender from England, sandalwood from India, jasmine, hyacinth, violet, and spikenard from France. It remained for the 20th century, and especially the American influence, to institute the first great change in perfuming in many a century—the giving of good, reasonably priced perfume to the middle classes (not yet, it must be remembered, to the masses). Actually perfume itself has become of relatively less importance as the general business of cosmetics has increased. Because everything is perfumed (powders, creams, bath salts, lotions) a woman has less need to daub herself with pure perfume. Whereas some $250,000,000 worth of cosmetic articles are sold annually in the United States today, perfumes account for only some $35,000,000. Nevertheless it is the perfumer who has been the nexus of the American-expanded beauty business. The most notable example is Coty, Inc., which we shall now examine in detail. And no matter how the position of perfume may vary with regard to the other elements of the beauty business, its ancient status as the most subtle of women's accomplices insures its business value, protects it from the vicissitudes of time.

M. Coty, Mr. Levy, Beauty's

Biggest business men. Americans acquire a world business in annual installments of $4,000,000.

BETWEEN them, and there are many things between them, M. François Coty of Paris, Montbazon, Louveciennes, Barbicaja, Scudo, and elsewhere, and Mr. Benjamin E. Levy, of Manhattan, have built up the largest, richest cosmetic organization in the world. Primarily they are perfumers, and so indispensable are Coty perfumes to the women of France that Coty never bothers to advertise them there. "We're dealing in necessities" is a favorite Coty slogan. It was only recently that the French company of Coty, about to market a new line of toilet preparations, decided to advertise at all. Truly, Coty of France is commercially great; it is to the French perfume world what Citröen is to the French motor world. But the real Coty animus is in the American Coty company, a young and amazing agency, created with lamp-rubbing facility by the genii Mr. Levy, which dwarfs its French forbear as completely as Ford dwarfs Citröen. With every resource known to modern advertising it sells Coty's twenty-three perfumes and a complete line of powders, soaps, bath salts, lotions, rouges, and creams, sells them so successfully that 36,000,000 women use Coty face powder. Of the $5,768,445 earnings reported for 1929 by the six Coty companies, approximately $4,000,000 net was earned by the American company. To this there came last year the astonishing if logical conclusion: the Levy-American company bought out M. Coty and all his European concerns. So that today the world's largest cosmetic enterprise is American, M. Coty remaining only as a thoroughly figurehead president.

But it would be a great mistake to extol the Levy-American aspect of the business if it meant disparaging the Coty-Parisian aspect. M. Coty, whose real name is François Joseph de Spoturno Coty, and Mr. Levy, whose real name is Levy, have few things in common. But there is one: they are both spirited and very able men. M. Coty should by no means be conceived of as some myopic, tripping French perfumer whose scents have been exploited, while he has been pauperized, by piratical foreign financiers. He is, on the other hand, a Corsican, born in Ajaccio in 1874, and it is significant that among his many lavish benefactions to the island is a grill enclosing the grotto where the greatest of all Corsicans used to meditate. There is certainly something Bonapartish about the perfumer which has nothing to do with his shortness or the fact that his grandfather, a military gentleman who was killed at Moscow, was second cousin to the Emperor's

BURLING
PUBLI
LIB.

GERANIUM
ILES
VOLNAY

Courtesy Saks-Fifth Avenue

LUXURY FROM LEFT TO RIGHT, CARON'S *ACCACIOSA*—$16. MATCHABELLI'S *DUCHESS OF YORK*—$18. VOLNAY'S *GERANIUM*—$12.50. VIGNY'S *GOLLIWOG*—$7.50. D'ORSAY'S *AMBER*—$35 father. M. Coty was raised, an orphan, by his grandmother in Marseilles. As a youngster he traveled to Paris, where he ran errands for the Senator from Corsica and later began experimenting with perfumery. In 1904, aged thirty, he perfected *La Rose Jacqueminot*, which may still be purchased at $3.75 an ounce. It was an immediate success, and, just to show that he was not a lucky bungler among his chemicals, Coty soon produced another, *L'Origan*. This—"The supreme achievement of perfume creation—evoking the image of delicate illustriousness, gleaming in surroundings of subtle elegances and soft luxuries—the woman of perfected poise and consummate social grace"—this was a ten-strike. The Coty people make the claim, which seems quite plausible, that more of this penetrating, amber-laden scent has been sold than any other on the market. With the reception accorded to *La Rose* and *L'Origan*, their inventor was able to build a laboratory and factory at Suresnes-sur-Seine, just outside Paris, which is today a Coty village wherein not only perfumes, but glass receptacles, boxes, labels, and toilet articles are manufactured. The first and many subsequent Coty bottles were designed by Lalique, famed as the outstanding glass-worker of modern times.

The pre-War years were those in which M. Coty made his chief contributions to Coty. They may be said to be two: first, the Coty perfumes. Secondly, he did not ask too much, a policy which has been maintained. Many of the world's smartly groomed women will wear Coty's *Jasmin de Corse* or *L'Aimant* while quite able to afford the expensive essences of Caron or Ybry.

In 1915 the name of Coty was but a Parisian echo in the United States. Mr. Levy and his associate, Mr. Joseph Scanlan, patiently distributed, patiently advertised. Fifth Avenue shops began to handle the perfumes, but the American woman who possessed a flacon of *L'Origan* looked on it as a rarity. In Paris, on the other hand, the reputation of Coty grew apace. The armistice revels may almost be said to have been perfumed by Coty. And when the armies of the United States sailed for home, thousands of soldiers took Coty samples back to their ladies. Countless little clouds of scent floated into the New World; their vapors captivated its women and prepared a market whose gigantic possibilities have only recently become apparent.

At this point began the ascendancy of Mr. Benjamin E. Levy, who had been sole agent for the United States since 1910. M. Coty began to think that he had had enough of perfuming. To be sure, several of his finest projects had failed—he had been unable to transform the entire island of Corsica into a perfumer's flower garden; he had been unable to buy Chambord, long a country seat of the Bourbons and the mightiest château in France, which he wanted to use as a perfume factory. But he had been reasonably successful. Clean-shaven, bright of eye, and red of hair, at fifty he seemed much younger and was still fiery with energy. And so he was quite content to turn to other things while Mr. Levy began to carry on the Coty cosmetic interests in such a way that M. Coty, with increasingly little more to do than clip coupons, became one of the few billionaires (in francs) of France.

Let us make a brief farewell inspection of this richest of actual perfumers before we concern ourselves with his successor. M. Coty has entered journalism—horse, foot, and dragoons. In 1923 he wanted to buy *Le Figaro*, the famous, dignified Paris daily whose columns have at one time or another contained the work of France's greatest men-of-letters, including accounts of social events in the Faubourg St. Germain by a young society reporter named Marcel Proust. *Le Figaro's* publisher, Edouard Calmette, said he would not sell it to a pink Socialist like M. Coty, who suddenly became anti-Communist and bought the paper. His editorials, presumably ghost-written, now applaud the Fascist cause. But since *Le Figaro* is read only by the genteel classes, in 1928 M. Coty founded *L'Ami du Peuple*, a so-to-speak tabloid of Fascism. Obtainable for the absurd price of two sous (less than half a cent), it sold 8,000,000 copies in its first month and infuriated some forty French publishers who had agreed on a minimum price rate of five sous per newspaper. There have been recriminations, insults, and lawsuits galore; M. Coty, with his ultra-modern policy of low prices, huge circulations, and plenteous advertising, has emerged from all these with better prospects than ever. *L'Ami* circulates to millions. He also owns the less notable and also Fascist *Le Gaulois*.

For a while M. Coty essayed politics. But his election as Senator from Corsica was invalidated when numerous Corsicans testified that they had been paid to vote for him. When he offered 100,000,000 francs to start a national sinking fund which should be controlled by business men instead of politicians, the government rebuked him by accepting the idea and forming a committee upon whose roster the name of M. Coty did not appear. The attacks on the government and on world-wide Communism made by the vital and untutored, witty and ambitious M. Coty never seem to savor of idealism. He is a coruscating character, but always of the political, and not the philosophical, world. He owns pavilioned domains in France and Corsica, but prefers to live in Paris hotels. When the Young Planners wanted to meet in the Hotel Astoria they were informed that an old client did not wish to be disturbed by a lot of reparations experts. They went elsewhere, and M. Coty kept his peace.

Meanwhile, Mr. Benjamin E. Levy was agog in the United States. Materials were sent him from Suresnes-sur-Seine, and he assembled them in Manhattan. In a very

Keystone
M. FRANCOIS COTY OF PARIS INVENTED *L'ORIGAN* AND HAS MADE A BILLION FRANCS IN COSMETICS AND FASCIST JOURNALISM

Keystone
THE ENORMOUS AMERICAN COTY BUSINESS, DEVELOPED BY THE INSCRUTABLE MR. BENJAMIN E. LEVY, IS LARGELY RESPONSIBLE FOR M. COTY'S BILLION

Keystone
MR. ALLAN LEHMAN OF LEHMAN BROS., COTY'S BANKERS, SYMBOLIZES THE SUCCESS WHICH HAS ALLOWED COTY-AMERICAN TO BUY CONTROL OF ITS EUROPEAN PREDECESSORS

short while the demand at Suresnes was tremendous, and compacts and cosmetic packages in the famous orange and gold powder puff design were being produced there in unprecedented thousands. This mass production stands as the first distinctive contribution of the Levy forces to the Coty crescendo. Coty advertising kept pace. The ladies who encountered it everywhere were smartly persuaded of the obvious truth that various sorts of women required various sorts of cosmetics, that Coty was prepared to present such a variety as other concerns could not muster. Each woman would be provided with those cosmetics which the arbiters of Paris would have judged appropriate to her. This personal advertising stands as Mr. Levy's second distinctive contribution. And thirdly, merchandising was likewise smart. For not only did the American plants generate enormous quantities of all the Coty products, but the laboratories performed the very deft and chic feat of matching the Coty cosmetics with the Coty perfumes. Coty still does this to a greater degree than any other concern. You may purchase Coty's *L'Ambre Antique* not only in a bottled fragrance, but in toilet water, brilliantine, hair lotion, face powder, compact, talcum, or sachet. And this is true of the other Coty fragrances.

So it was that in 1925 the American branch of Coty was making twice as much money as all the other Coty companies combined. And then it was that the progressive, aggressive firm of Lehman Bros. got together with Heidelbach, Ickelheimer and Company and capitalized the American Coty business at about $11,500,000. Since the business made more than $2,500,000 that year, this was an extremely conservative capitalization and a great credit to the House of Lehman, which in that period gained a reputation for selling stock to the public at most attractive prices.

But actually only one-sixth of the company was sold to the public; to be exact, 50,000 shares at $37 per share out of a total of 309,300 shares (309,300 times $37 = nearly $11,500,000). The rest of the stock remained presumably with M. Coty, Mr. Levy, their associates and bankers.

The Lehman or the Heidelbach, Ickelheimer customer who paid $3,700 for 100 shares of Coty, Inc. has every reason to be thankful today. On this modest investment he has received handsome dividends, to wit:

1925—$380 (about 10 per cent)
1926— 500 (about 13 per cent)
1927— 600 (about 15 per cent)
1928— 821.50 (about 22 per cent)
1929— 878 (about 24 per cent)

We come now to August, 1929, to the very peak of the bull market. Striding triumphantly on, Coty-American had increased its profits from $2,500,000 to over $4,000,000. And the time had obviously come for Coty-American to run the show throughout the world. So, Coty-American made a deal with its father, M. Coty of Paris. In effect, Coty-American agreed to pay M. Coty and big

[*Continued on page 97*]

Elizabeth Arden: Queen

Who straps muscles, tones skin; and Helena Rubinstein, who does not. For each, some $700,000 net profit. Also Seligman & Latz.

ORDINARY cosmetic products—powders, creams, lotions—are all more or less alike. They require something such as the signature of a renowned *parfumeur* or a celebrated metropolitan beauty salon to give them a commercial advantage. We have observed the great international cosmeticists, like Coty, Houbigant, and Hudnut, who began with perfumes; now we shall look at others, particularly Elizabeth Arden and Helena Rubinstein, who have developed from luxurious, personal service beauty shops.

Black and white modernism on Fifth Avenue, gray stone and grilled balconies on the rue de la Paix, red brick on Old Bond Street and on Newbury Street—fashionably situated in most of fashion's capitals are the Elizabeth Arden salons. On the Calle Alcalá, the Lennéstrasse, the Via Condotti, in the Galeries Fleuries, the Book Building, the Casino Block, and Job's Lane they stand, with solicitous, soft-voiced attendants and services equally ingratiating.

Usually such glittering, costly plants depend for their existence on the outside sales of the products whose reputation they have established. Thousands of women who have never been in an Arden salon buy Arden products in the more respectable drug and department stores all over the country. But it seems entirely probable that the Arden salons, alone of their kind, pay their own way. In the United States they enjoy a refined and enthusiastic Junior League clientele; elsewhere they have rapidly attracted the prosperous. But it would be folly to suppose that this condition even approaches permanency, that Arden has a timeless secret. Arden is the vogue at the moment. But let some new beautician appear with new and attractive mannerisms, and her name will usurp the place of Arden in the boudoir gossip of the big cities. Then the Arden salons will, like their rivals, be functioning chiefly for the benefit of Sioux City and points east and west. Helena Rubinstein once held a position analogous to Arden's, and Kathleen Quinlan is making a strong bid to displace her.

But, you ask, what is there about these super-beauty shops which makes their products seem so desirable to outlanders? Why do their names give repute to a cosmetic product? Let us examine Arden's New York salon in an attempt to answer this question. Behind every institution of this sort is a simple physical fact—most people like to be handled. They squirm with delight when their backs are scratched, their heads stroked, their feet rubbed. Elizabeth Arden takes magnificent advantage of this fact. She offers innumerable treatments, involving all sorts of slapping, prodding, tickling, laving, smoothing, and vibrating. She has about 100 preparations, from Venetian Puffy-Eye Straps to Venetian Anti-Brown Spot Ointment, all of which can be applied in a veritable orgy of handling. If she wishes, a woman may enter the discreet portal of Elizabeth Arden's and be continuously handled for four hours. Combine this sensuous bliss with the client's conviction that she is being beautified by a wizardry peculiar to Miss Arden, and you obtain some idea of the appeal which the

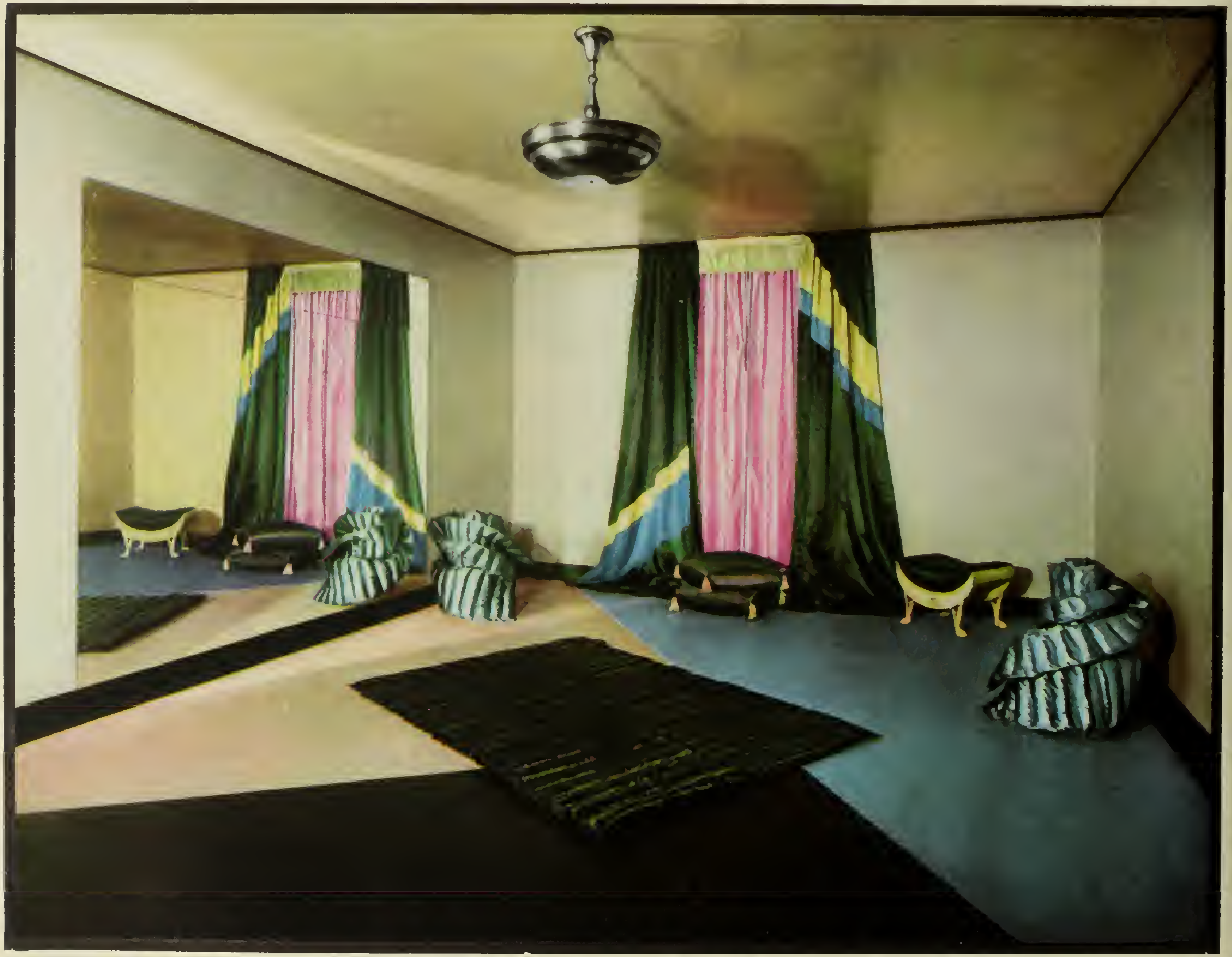
ELIZABETH·ARDEN

U. & U.
ELIZABETH ARDEN WITH SALON KEY

Arden salons exert upon those who are in a position to patronize them. But manifestly this handling does not affect Mrs. John Citizen of Sioux City. If Mrs. Citizen wants to have her back scratched or her hips kneaded, she has no Arden scratchers or kneaders to do it for her. And, as everyone knows, there is no fun in pinching one's own cheeks or pummeling one's own haunches.

The same thing applies to the Arden exercise and tap-dancing curriculums. In order to exercise at Arden's a woman must present her doctor's certificate of permission. She is then examined and photographed schismographically (a silhouette picture on graph paper) which reveals the exact extent of every unfortunate billow or hollow or curvature. Dietary advice is given and exercises prescribed. These take place in rooms fitted with full length mirrors, calculated to remind the client of her convex or concave failings. A specially trained attendant, skilled in the Swedish massage, dons a short Grecian tunic and conducts the ceremonies to the music of a phonograph. Eight exercise lessons (perhaps an hour and a half apiece, including massage and shower) cost about $50. In addition, most of the exercisers are persuaded to buy a special exercising costume which resembles a gray one-piece bathing suit ($5.00) and a waterproof satin camel's hair exercise mat ($65). Not until a client's figure has begun to show the effects of her routine, not until she exhibits a certain proficiency in her exercises, is she allowed to purchase phonograph records which will enable her to exercise at home. The robustious young lady who directs this department emphasizes the psychological angle—a good figure makes for a contented mind. She uses the word "happy." The tap-dancing classes are similar in theory—the client pays something for the instruction and considerable for the trappings that go with it, in this case scant black satin trunks, an orange-yellow blouse, black strap shoes, and white socks that few women could resist.

But, as we have remarked, the lady in Sioux City does not attend these exercising lessons, which are perhaps more beneficial than anything Arden has to offer. Nor does she buy the exquisite Paris lingerie and other feminine accessories with which the corridors of the Arden salons are embellished. In Sioux City the Arden trade depends largely on the staple products of all beauty shops—make-up and materials for the facial massage. In the New York salon three or four floors are devoted exclusively to facials, performed in individual chambers by skilled administrants of the Arden Muscle-Strapping, Skin-Toning Method. A facial thus given requires one hour and costs about $5. But all the materials may be purchased in Sioux City at a considerable saving and applied by the purchaser in her Sioux City home. The method "consists of smart rapid patting following the line of muscles of face and neck . . . Patting is always upward, to



IN THIS EXERCISE ROOM AT ELIZABETH ARDEN'S, GREAT MIRRORS REMIND THE CLIENT OF HER BULGES lift the muscles and overcome their natural tendency to droop and sag . . . It is done tellingly, to stimulate circulation and increase the functional activities of the tissues."

In the Arden salons this patting is accomplished by the fingers of the attendant. In Sioux City it is done by the pattee herself, using the Arden Venetian Patter ($5), a sort of fly-swatter de luxe. Arden counsels both Bedtime and Morning Treatments. As they are similar, we will describe only the Morning Muscle-Strapping and Skin-Toning.

First the face is cleansed, always stroking upwards, with a pad of absorbent cotton from which cold water has been squeezed and which has been dipped in Venetian Ardena Skin Tonic ($15 the gallon) and touched with Venetian Cleansing Cream ($6 the pound). The face is then dried with Venetian Cleansing Tissues ($.40–$2.25) instead of "harsh towels that stretch the skin." These operations should "awaken the tissues to normal, healthy functioning." The face, if full, is then patted with Ardena Velva Cream ($6 the pound). If lean, on the other hand, it is patted with Venetian Orange Skin Food ($8 the pound). After five or ten minutes patting with the fingers, the Cream or Skin Food is removed with the Venetian Cleansing Tissues aforementioned. Another pad of absorbent cotton is then dipped in cold water and squeezed out, saturated with Venetian Ardena Skin Tonic, hereinbefore referred to, and swabbed over the entire face and neck. Here the Arden Venetian Patter is brought into play for a few minutes, before a piece of ice wrapped in cotton is smoothed over the face. The face is then, for a third time, wet with Venetian Ardena Skin Tonic and dried with the familiar Venetian Cleansing Tissues. One should then "protect the skin" by applying that cream which is recommended for one's type—either Cream Amoretta (general, $1–$2), Cream Ultra-Amoretta (dry skins, $1–$2), Lille Lotion (oily skins, $1.50–$2.50), Crême de France (thin, sensitive skins, $1.25–$2.50), Ardena Protecta Cream (anti-sun and wind, $3). Rouge, powder, lipstick, eye shadow, and eyelash darkener may be added according to taste; Arden sells many varieties. Other things which may prove handy are June Geranium Bathodomes, Venetian Superbe Mits, or the Venetian Chin Strap De Luxe.

Some idea of the subtleties of Muscle-Strapping and Skin-Toning should by now be apparent. Unquestionably it is hygienic, healthy; unquestionably this is a distinction in the cosmetic world. Undoubtedly it has certain positive effects. Investigation has disclosed the fact that the complexions of American women are changing, growing drier, darker, and, unless one is careful, dirtier. Muscle-Strapping and Skin-Toning probably do counteract dryness and dirtiness, may very well "preserve and restore the firm, round contours of youth." But it is doubtful whether Elizabeth Arden could

WHILE IN THESE BE-SCENTED SHOWERS SHE MAY REFLECT THAT SHE WHO ACHES IS ALSO SHAPELIER demonstrate scientifically that her Method has any advantage over those suggested by her rivals or, indeed, over a simple home process involving plenty of soap and water and perhaps a cold cream.

And so, to determine the secret of Arden's out-of-town popularity we must look elsewhere than at the Method. And it seems quite obvious that the secret consists in an idea which is deposited in the heads of the Arden clientele. Those who visit the salons perceive that they are smart, learn that their treatments are fun and the results pleasing, if expensive. But those who are unable to visit the salons are persuaded, by the most high-flown advertising, that they are missing something precious and incomparable which, fortunately for them, is obtainable at a near-by pharmacist's. It is a process of awing those innumerable women who are susceptible to ultra-fashionable things. Lines from Arden's bravura advertising are illustrative: "I have seen pale opalescent women who have never lived . . . I have seen women who, like the eagle, have looked upon the sun." And in the opposite column: "Dip your fingers in muscle oil." It should be apparent that Arden does its awing proficiently.

Queen Elizabeth

Selling direct to some 3,000 American retailers, operating twenty-odd salons, Elizabeth Arden is said to have made $700,000 last year. Her reputed comment: "What have I really got? I can't even speak French."

Elizabeth Arden may feel a disability in this linguistic lack, may regret that she cannot pronounce the names of her French employees, but if it be true that chic emanates mostly from France then she has indeed a strong kinship with that country.

Courtesy Helena Rubinstein

For few women in America have as keen a flair for chic as she. By some occult foreknowledge she always seems to know, months before her competitors, when it will be fashionable to look artificial, when it will be better to look natural. She seems to read the future complexion of women in the skies. And the chic, needless to say, pervades the rarified atmosphere and the pastel corners of her salons. Women do not swoon, but they are most pleasantly lulled when they step into one.

The history of this tiny, dynamic, extremely feminine woman with the pretty, skillfully cosmeticized face will not be found in any books (though Elisabeth Marbury, it is said, is contemplating one) nor heard from many lips. Some think she is a native Canadian and rose a long way to attain her undistinguished social position. It is related that she was first an operator in a small beauty salon, then joint owner, then proprietress. The mellifluous name Arden is most probably a trade name although she has borne it ever since her present associates knew her. She has a Rolls-Royce and a Duesenberg and a chaste gray and silver apartment (recently converted from the lacey chi-chi kind). She has a house in Maine which Mrs. John Alden Carpenter is decorating (Mrs. Carpenter is also doing a series of department store salons for her.) One of her mannerisms is patting her face in the Muscle-Strapping fashion while she talks to you.

Extremely dominating and erratic, she examines every letter, every picture, every bit of advertising which leaves the office. Until recently she would dart about New York on unannounced visits of inspection. Ineptitude irritates her as it irritates any artist. She becomes completely miserable watching a clumsy student learning her business.

Perhaps her greatest friend is Elisabeth Marbury, famous liaison officer between commerce and society. From Miss Marbury she is supposed to have received much sage advice about her business. And she is frequently seen at Miss Marbury's rather strained receptions in her Sutton Place home.

Rumors have recently stated that Elizabeth Arden, like most of her rivals, has sold her business to Wall Street. But this does not seem possible to anyone who has ever observed this seething little person at work. Not until she wants something bigger than the Elizabeth Arden organization can its

DR. MAURICE AISEN HAD A "PSYCHIC SPLIT." AS A CONSULTING CHEMIST, HIS ADVICE WAS CONSTANTLY SOUGHT BY COSMETICIANS, YET HE DISLIKED COSMETICS ON THE LADIES OF HIS FAMILY AND KNEW THAT MUCH OF THE BUSINESS WAS NONSENSE. HE ENDED THE "SPLIT" BY DECIDING TO BUILD COSMETIC ILLUSION ON A SCIENTIFIC BASIS. NOW HE IS PINAUD'S HEAD CHEMIST

MAURICE AISEN

MR. CARL WEEKS WAS BORN ON AN IOWA FARM, WORKED IN DRUG STORES, AND DEVISED FACE POWDERS. HIS ARMAND FIFTY-CENT POWDER HAS BECOME FAMOUS. HE HIMSELF HAS BECOME RICH AND ONE OF THE MOST POPULAR CITIZENS OF DES MOINES AND THE COSMETIC WORLD

CARL WEEKS

HELENA RUBINSTEIN, ONE OF SEVEN RUSSIAN SISTERS FROM CRACOW, STARTED THE BEAUTY SALON IDEA. IN MANY LANDS HER SHOPS AND PRODUCTS HAVE PROSPERED. FOR SEVERAL MILLION, SEVERAL YEARS AGO, SHE SOLD OUT TO WALL STREET. IT IS REPORTED THAT SHE BOUGHT BACK HER BUSINESS, LAST FALL, AT A GREAT PROFIT

Blank-Stoller

HELENA RUBINSTEIN

She said "No!"
No SOX appeal without
PARIS
GARTERS
No metal can touch you

Husbands admire
nice hands. Keep
yours smooth by
using IVORY for all soap tasks
IVORY FLAKES
IVORY SOAP

mistress be conceived of as abdicating. And at present the organization is big and burgeoning enough to satisfy almost anyone's lust for work and dominance.

Although she is often brusque, often tactless, although like all vivid personalities she has her critics, her disparagers, Elizabeth Arden merits and frequently receives praise for having almost single-handedly created an outstanding business success. From Mr. Thomas Lewis, her husband, she received little assistance when she was first launching the venture. But she had (and has) a passionate belief in her own preparations, she was ready to tell the world about them—and did—and presently the world was buying them. In any complete list of successful American business women, Elizabeth Arden's name should be high in the first column (where by alphabetic rights it anyway belongs).

All over the country there are bureaus for beautification on the salon idea, from highfaluting city establishments to dingy myriads of small town beauty shoppes. Some of Elizabeth Arden's heaviest competition comes, for instance, from the department stores, which have been quick to welcome the salon. The firm of Seligman & Latz operates 103, each under the name of the department store in which it is located, with an annual business of $6,000,000. Filene's in Boston serves tea and cigarettes with its cosmetics. Famous-Barr in St. Louis makes up faces in a Tony Sarg village. Macy and Saks-Fifth Avenue in New York sell most of the better brands of cosmetics and dispense expert advice. Saks in addition runs the Silhouette Shop, dedicated to strenuous forms of reducing.

[*Continued on page 92*]

Big Beauty Business

Coty and Colgate, Procter & Gamble and Lever Bros.; Vadsco, Lehn & Fink and Pond's.

THERE is about the cosmetic business so much that is frothy and superficial, that the temptation persists to dismiss the entire industry as hardly worthy of attention from a serious financial standpoint. Yet such a standpoint would be both unfair and archaic. Last year the beauty business spent (together with its close relative, the Drug Family) more than $35,000,000 in magazine advertising space—$3,000,000 more than was spent by foods and $9,000,000 more than was spent by automobiles. It produced at least a half dozen companies with advertising appropriations of well over $1,000,000. It engaged the serious attention of at least one internationally prominent banking house (Lehman Bros.). It was not only a big business, but through a process of consolidation it was becoming a bigger business. The Man in Cosmetics might well be envied by the Man in Copper or by the Man in Coal.

Of Coty, Inc., as Big Business, with the subsidiaries, the funded debt, the complicated financing, and the other familiar accessories of corporate magnitude, much has already been said. Most of the other great beauty companies are, it must be admitted, primarily soap companies. But soap is constantly becoming more and more a beautifier and less and less a cleanser.

Greatest of American soap companies is Procter & Gamble Co., whose Ivory Soap, as everyone knows, is 99 44/100 per cent pure and floats. The company will celebrate its hundredth birthday in 1937, has paid unbroken dividends since 1891, and for the fiscal year ended June 30, 1929, showed sales of $193,296,721, with a net income of $19,148,934. Net for the last six months of 1929 was $11,639, 820, and business during the present year has been so excellent that an extra dividend is widely talked of. J. P. Morgan & Co. has about a $20,000,000 stock interest in Procter & Gamble. Last year the company spent in magazines $4,127,230, with Camay complexion soap, endorsed by dermatologists, its most strictly cosmetic merchandise. Odd side line development is the contemplated use of green cottonseed hulls for fairways for Tom Thumb golf courses.

Aggressive Procter & Gamble rival is Colgate-Palmolive-Peet, with its new thirty-seven-story building on Michigan Avenue, and its consolidation of Colgate (founded 1806), Palmolive (founded 1864), and Peet (founded 1872) into a well-rounded organization dedicated to soap, dental cream,

[*Continued on page 43*]

LOVELY HAIR...RINSE WITH FRESH JUICE OF
SUNKIST
California
LEMONS
2 LEMONS TO 4 QUARTS OF WATER

A good dancer
—but "B.O."
spoiled it all!
Lifebuoy
stops Body Odor

U. & U.
SYDNEY COLGATE OF COLGATE-PALMOLIVE-PEET

Keystone
C. A. CORLISS OF POND'S COLD AND VANISHING CREAMS

Keystone
THOMAS J. McHUGH OF VIVADOU, KNY-SCHEER ET AL

Notes on Cosmeticians

Ranging from the giant soap company to the pygmy beauty parlor, the cosmetic business harbors every type of personality from the corporate organizer to the individual operator with a secret and precious formula. Chairman of Colgate-Palmolive-Peet is Sydney M. Colgate, heir of a business founded in 1806, a good round century before cosmetics achieved respectability. Before the Palmolive-Peet merger (July, 1928), eight of nine executive Colgate Co. positions were filled by members of the Colgate family. Head of Pond's Extract Co. is C. A. Corliss, who became wealthy as a partner of Thomas W. Lamont, who is now with the great house of Morgan. Lamont, Corliss handles Pond's and O'Sullivan Heels, heterogeneously but profitably. Thomas J. McHugh directs the destinies of Vadsco Corp., *née* Vivadou, discussed above. Viola Paris "does" beauty for *Vogue*, does also beauty columns for twenty-four newspapers. One of her columns circulates in Barbadoes. Ray Long is editor of William Randolph Hearst's *Cosmopolitan.* All-fiction magazines seem seldom to rate as great advertising mediums; do, however, corral much cosmetic advertising, perhaps because both fiction and cosmetics have much to do with sex. Of the approximately $4,750,000 which advertisers spent in the 1929 *Cosmopolitan*, nearly one-third went into "toiletries." Large *Cosmopolitan* advertisers were Bristol-Myers (Ipana tooth paste), Liggett & Myers (Rexall preparations), Lambert Pharmacal Co. (Listerine), and Colgate-Palmolive-Peet. So Mr. Long, great editor, is also great cosmetic salesman. Helen Martin runs the *Delineator's* beauty institute. Nearly all the women's magazines have beauty institutes which analyze cosmetic products, conduct the beauty department, and dispense booklets, in which advertised beauty brands are specifically recommended. Miss Martin carries coöperation with the advertiser to the point of conducting special consumer tests on products. Other beauty instituters are Ruth Murrin of *Good Housekeeping* and Hazel Rawson Cades of *Woman's Home Companion.* But the *Ladies' Home Journal*, which is not so aggressive in the beauty institute line, publishes the most pages of cosmetic advertising. Gladys Glad, one-time Follies girl, edits beauty for the New York *Mirror*, Hearst tabloid, on which her husband, Mark Hellinger, is a columnist. Advertising agencies with the best known beauty accounts are J. Walter Thompson Co. (Pond's and Lux) and Lord & Thomas and Logan (Colgate-Palmolive-Peet).

Tony Van Horn
VOGUE'S VIOLA PARIS

Keystone
COSMOPOLITAN'S RAY LONG

Tony Van Horn
DELINEATOR'S HELEN MARTIN

The Cosmetic Urge

The He-and-She Urge.—This urge presents a straightforward association between cosmetics and boy friends. A sample is Pompeian advertising:

> They call it glamour
>
> After years of casual friendship, Paul found his pulse quicken as his hand closed over Claire's—felt his senses stirred by the provocative fragrance which enveloped her.
>
> Claire had become glamorous . . . A satin film of Pompeian Beauty Powder in Naturelle—a touch of Pompeian Bloom in the Orange blend—she became a woman of mysterious, beckoning charm.

The Staying-Young Urge.—Here are sold cosmetics as fountains of youth. The new Colgate perfume, *Seventeen*, exemplifies this urge:

> We have our secrets, my perfume and I. At first you think it's so naive . . . But what that perfume knows of life! It tells me the strangest things . . . sings of Youth . . . my perfume asks so much of me! I just can't disappoint it . . . I must be young and gay forever.

The Love Urge.—This is Victor Herbert's *Sweet Mystery of Life*, without the music. Elizabeth Arden demonstrates it at its most lyrical:

> Love is the secret of the universe . . . alone justifies life . . . better to cast your pearls of love before anyone, anything, than to keep them . . . only when one has been burned clean with the fire of love that knowledge comes . . . in love alone are all the heights and depths of joy and dreams and friendship.

The Endorsement Urge.—This is the testimonial technique incidentally applied to beauty products. Current endorsement campaigns include:

> Foreign beauty parlors approve Palmolive Soap. Dr. William Allen Pusey, editor of dermatologists' official journal, approves Camay Soap.
>
> Allan Dwan, cinema director, says, in behalf of Lux Soap, that "Smooth skin is always an irresistible attraction," and Lois Moran, cinema actress, says: "I always use Lux Toilet Soap to guard my skin. It is a lovely soap."
>
> Miss Virginia Carter Randolph, of Warrenton, testifies, for Pond's Creams, that "a Southern girl must have a lovely skin" and that "the ducky new [Pond's] Cleansing Tissues are perfectly divine."

The Natural Beauty Urge.—This ingenious urge conforms to the current admiration of apparently unstudied beauty. Yardley's soap advertising is built around it:

> This simple, effective English Beauty Treatment . . . the English woman is noteworthy for the few cosmetics she uses . . . but they bring her the unstudied, genuine, natural charm that is the first consideration of a gentlewoman.

The Vie Parisienne Urge.—Copy that speaks with a pronounced French accent is rather outmoded, remains dear chiefly to perfumes such as Lenthéric and Guerlain:

> La jeune fille et les fleurs—mais la femme la plus charmante sait que les fleurs periront et que le bouquet le plus éternel sera toujours un parfum de Lenthéric.

And Guerlain contributes:

> *Liu* is new . . . a rare and exotic perfume of Guerlain . . . absolute in its personality, unforgettable in its souvenir. To be enclosed in its aura is to be distinguished as a woman au courant with Paris, for in Paris *Liu* is a "succès fou."

shaving soap, and laundry soap. Palmolive, said to be the largest selling soap in forty-eight countries, has been advertised through endorsements from European beauty experts. Sales of $100,560,000 for 1929 were a few million off from 1928, but net of $8,910,000 was larger.

A third great American soap is Lux, made by Lever Bros. and claimed to be in more homes than any other advertised product. But the American Lever Bros. Co. is a subsidiary of Lever Bros., Ltd., of England, formed by the late great William Hesketh Lever, first Viscount Leverhulme, to whom Albert of Belgium gave a concession of 1,860,000 acres in the Belgian Congo. In September, 1929, Lever Bros. merged with the Dutch Margarine Unie and its British affiliate, Margarine Union, to form a company with a capital of more than $300,000,000. Lever Bros., Ltd. controls 200 companies; soap is but one of its many interests and Lux but one of its many soaps (others include Lifebuoy, Rinso, Pears, and the parent soap, Sunlight). But Lever Bros. in 1928 spent more than $4,600,000 in U. S. magazines and newspapers, advertised Lux chiefly with testimonials from cinema actresses.

Largest cosmetic companies are by no means comparable with the soap companies, though as soap has become so cosmetics may develop. Representative in their field are Vadsco Corp., Lehn & Fink, and Pond's Extract. Vadsco Corp. was originally V. Vivadou, Inc., makers of a long line of cosmetics. In 1926 the company acquired the Melba cosmetic preparations, popular-priced, of which the Federal Trade Commission this year ordered Vadsco to divest itself. Last year Vadsco further merged with Kny-Scheerer, makers of hospital supplies, and the American Druggists Syndicate. In 1929 Vadsco sales were approximately $10,500,000; net approximately $1,000,000.

Pebeco tooth paste, Hinds Honey and Almond Cream, Lysol disinfectant are the chief Lehn & Fink products, but Lehn & Fink also owns the Dorothy Gray Co., operators of an exclusive beauty shop and manufacturers of a quality cosmetic line. Lehn & Fink does not publish sales figures, but the 1929 net was $1,729,581. A magazine advertising appropriation of $1,118,568 well illustrated the selling expense incidental to the drug and cosmetic line.

Pond's Extract, Inc. is best known through Pond's Creams, Cold and Vanishing, advertising of which has carried the endorsement of hundreds of celebrities and near-celebrities. The company has not published sales or profit figures since 1925. Its 1929 advertising appropriation was in the neighborhood of $1,500,000. Like Lehn & Fink, Pond's, selling to the masses, has also a class subsidiary, having acquired the business of Kathleen Mary Quinlan, beauty salon operator with a distinguished clientele.

The soap companies gradually and the cosmetic companies almost exclusively are selling beauty, beauty, and more beauty. And certainly theirs is a product on which millions are cheerfully spent.

The Cosmetic Influence

Soaps (other than complexion soaps) sell the charm of smooth hands and the charm of unfaded apparel.

> She pays $780 a year (i.e., she has a maid) for nice hands—mine cost me next to nothing.
>
> *Ivory Soap*

> Lovely, soft, colorful underthings, lacy and shimmering—they make you feel so utterly feminine. Irresistible! And because you have confidence in yourself, you impress others—for confidence is contagious . . . Girls sometimes say, "It is so difficult to keep lovely underthings looking wonderful—frequent washings take away color and charm." But this will never be the case if you wash them always in Lux.
>
> *Lux Soap*

Laxatives (cereal or medicinal) sell the association between internal disorders and external imperfections.

> Your dining table can do damage your dressing table can't repair.
>
> Break nature's law and how soon the penalty is apparent in your face! How quickly your complexion confesses your neglect! How frankly your skin, your facial contours, your eyes, betray your default! . . . No wonder modern women take care to protect themselves against that great beauty destroyer—constipation.
>
> *Post's Bran Flakes*

> Beauty That is Envied Everywhere . . .
>
> . . . But avoid strenuous starvation menus. They often destroy beauty . . . Often [dieting girls] lose their color, the complexion becomes sallow and wrinkled. The reason for this is that most reducing diets lack roughage. Without roughage, the symptoms of improper elimination are inevitable.
>
> *Kellogg's All Bran*

Dentifrices have a leaning toward the medicinal approach, but some cling to the cosmetic basis. Thus Kolynos, the antiseptic dental cream, pictures a man edging away from a woman, says:

> Will he kiss her? NO!
>
> Germs sweep into the mouth with every breath and cause offensive bacterial mouth—ugly yellow teeth, stain, decay, and sore, spongy gums. You can't hide it from others, but you can remove it with Kolynos.

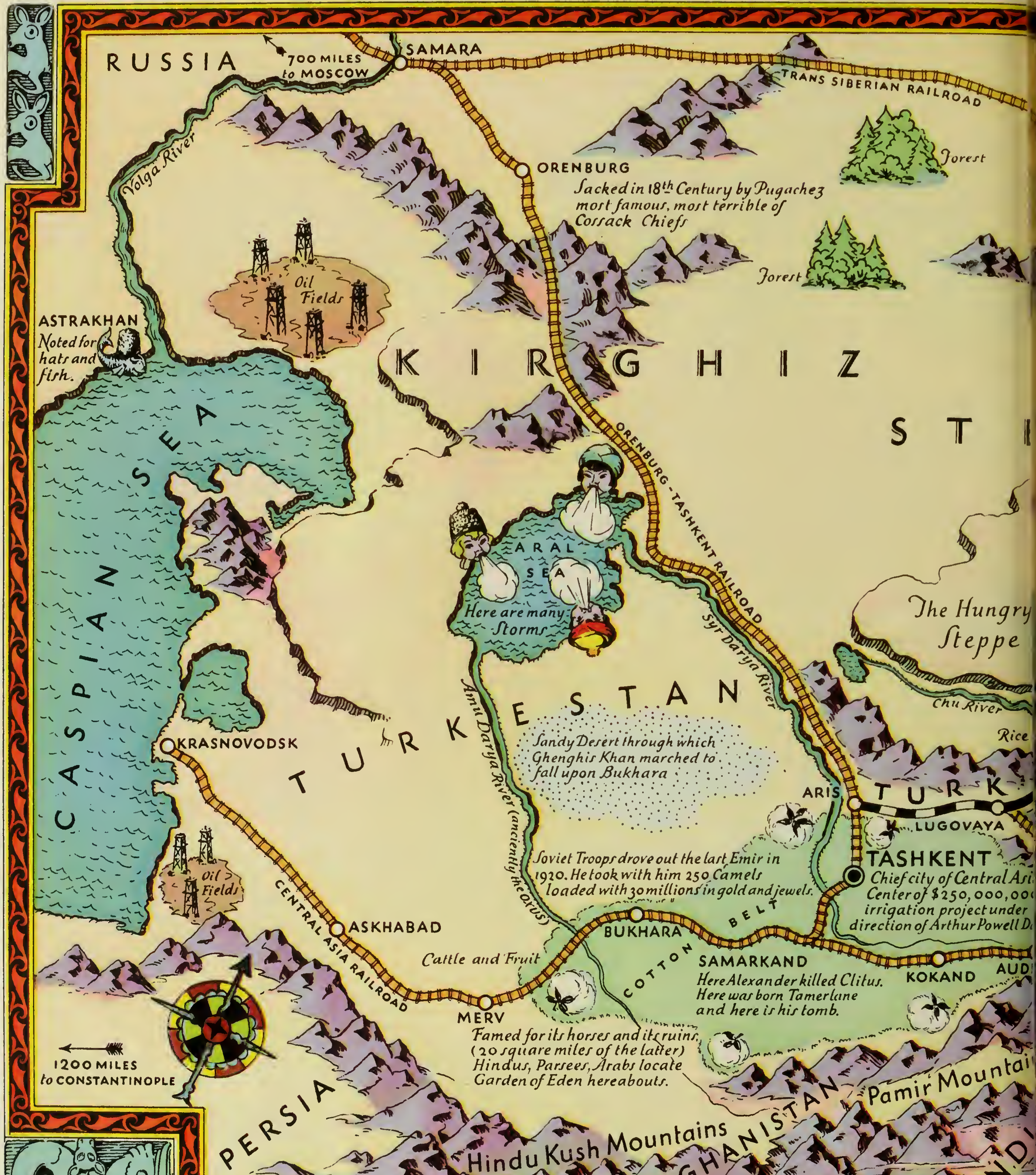
Antiseptics and disinfectants often interpret sanitation in terms of charm, run chiefly toward a negative approach in which the non-antiseptic becomes the repulsive:

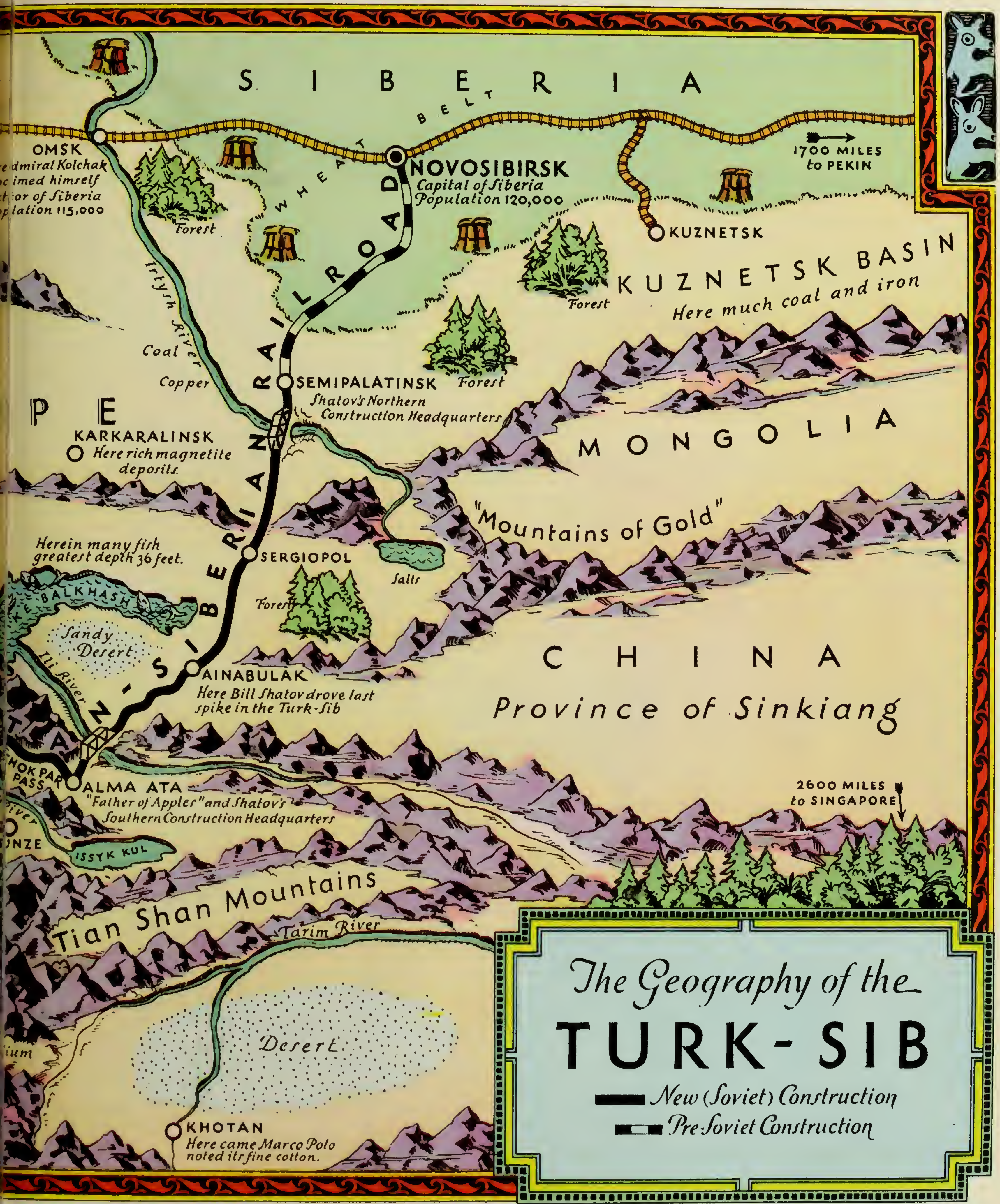
> She Bags the Bouquets but never a Beau
>
> Many in Chicago society can remember when Mildred caught her second bouquet. The year was 1917 . . . Everybody was marrying; war, romance, and matrimony were in the air . . . But . . . the years rolled on . . . Whatever the cause, halitosis is an unforgivable social fault.
>
> *Listerine*

Gum might appear proof against cosmetic treatment, but not so:

> An Old Beauty Secret
>
> . . . Keep lips young, and you keep them pretty. And, one of the oldest and most inexpensive Beauty Secrets for this is merely chewing gum from the Sapota tree, the beauty tree of ancient Mexico, which is what you have in Wrigley's. Chew Wrigley's at least ten minutes a day. Note the added loveliness in texture and contour that gradually finds its alluring way to your lips.
>
> *Wrigley's Double Mint*

BURLINGA
PUBLIC
LIB.


RUSSIA
700 MILES to MOSCOW
SAMARA
TRANS SIBERIAN RAILROAD
Forest
Volga River
ORENBURG
Sacked in 18th Century by Pugachez most famous, most terrible of Cossack Chiefs
Forest
Oil Fields
ASTRAKHAN
Noted for hats and fish.
KIRGHIZ
ST
CASPIAN SEA
ORENBURG-TASHKENT RAILROAD
ARAL SEA
Here are many Storms
The Hungry Steppe
Syr Darya River
Chu River
Rice
TURKESTAN
Amu Darya River (anciently the Oxus)
Sandy Desert through which Ghenghis Khan marched to fall upon Bukhara
KRASNOVODSK
ARIS
TURK
LUGOVAYA
TASHKENT
Chief city of Central Asi
Center of $250,000,00
irrigation project under
direction of Arthur Powell D
Oil Fields
Soviet Troops drove out the last Emir in 1920. He took with him 250 Camels loaded with 30 millions in gold and jewels.
CENTRAL ASIA RAILROAD
ASKHABAD
BUKHARA
COTTON BELT
SAMARKAND
Here Alexander killed Clitus. Here was born Tamerlane and here is his tomb.
KOKAND
AUD
Cattle and Fruit
MERV
Famed for its horses and its ruins, (20 square miles of the latter) Hindus, Parsees, Arabs locate Garden of Eden hereabouts.
1200 MILES to CONSTANTINOPLE
PERSIA
Hindu Kush Mountains
AFGHANISTAN
Pamir Mountains
INDI


The Geography of the
TURK-SIB
New (Soviet) Construction
Pre-Soviet Construction
SIBERIA
WHEAT BELT
OMSK
dmiral Kolchak
imed himself
or of Siberia
lation 115,000
NOVOSIBIRSK
Capital of Siberia
Population 120,000
1700 MILES
to PEKIN
KUZNETSK
KUZNETSK BASIN
Here much coal and iron
Forest
Forest
Forest
Forest
Irtysh River
Coal
Copper
TURK-SIBERIAN RAILROAD
SEMIPALATINSK
Shatov's Northern
Construction Headquarters
P E
KARKARALINSK
Here rich magnetite
deposits.
MONGOLIA
"Mountains of Gold"
Herein many fish
greatest depth 36 feet.
SERGIOPOL
Salts
BALKHASH
Sandy
Desert
Ili River
AINABULAK
Here Bill Shatov drove last
spike in the Turk-Sib
CHINA
Province of Sinkiang
HOK PAR
PASS
ALMA ATA
"Father of Apples" and Shatov's
Southern Construction Headquarters
2600 MILES
to SINGAPORE
River
UNZE
ISSYK KUL
Tian Shan Mountains
Tarim River
Desert
ium
KHOTAN
Here came Marco Polo
noted its fine cotton.

The Turksib Is an Asiatic Monster

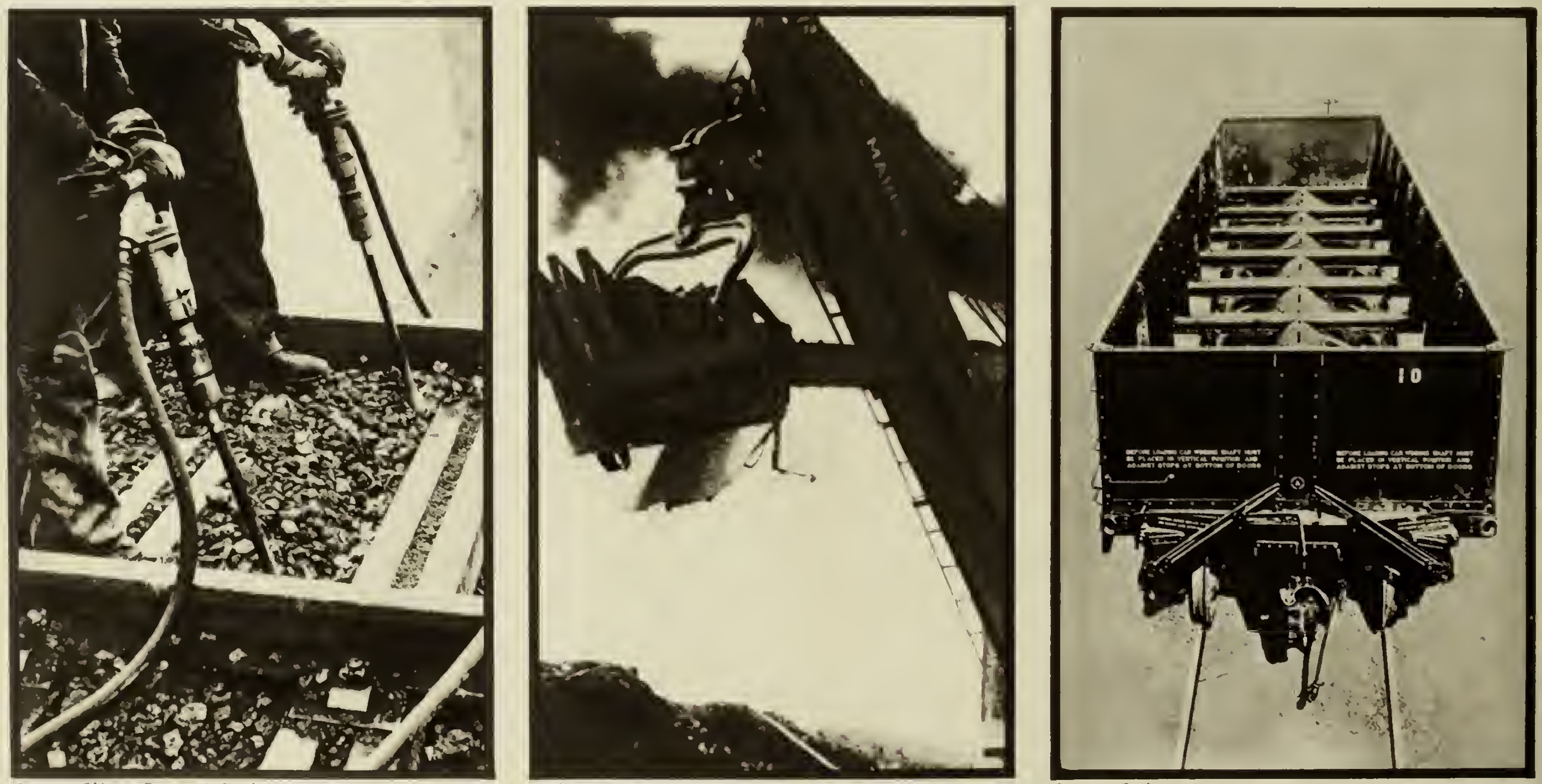
With head in Siberia and tail in Turkestan. A Chicago anarchist built it. Tartars, Kazaks, and Uzbeks operate it. It runs from Lugovaya to Semipalatinsk. It means more cotton to compete with U. S. cotton. And it is without question the outstanding job of railroad construction for many years.

THE tale of the Turksib begins with the tossing in the air of a large, fat anarchist. Those who tossed were members of the ancient tribes of Turkestan and the Kirghiz Steppe. He who was tossed was "Big Bill" Shatov, one-time I.W.W. agitator in the United States, one-time section hand on the Erie, one-time head of the Leningrad police force, and successively Bolshevik Secretary of War and of Transportation. His tossing was in the way of respect, not of mockery. He had done a big job, and the tribesmen were thus expressing their appreciation.

Bill Shatov had driven through remote deserts and wintry mountain passes the premier new railroad of the year, of many years. He and the 40,000 men under his command had completed the Turkestan-Siberian Railroad ("Turksib" in the clipped Bolshevik jargon). The Turksib is only 900 miles long, a Lilliputian stretch compared to the 8,000 miles of the Cape Town to Cairo railroad and to the 3,486 miles of the trans-Australian railway. But the Cape-Cairo is far from complete; its segments are separated by enormous gaps of jungle. The Turksib rails have met, and a train has lumbered over the whole line, though heavy freight must wait another year or so until the road is ballasted. Nor is the Turksib a pioneering road through virgin country like the African and Australian projects or like the old Central Pacific. Turkestan is one of the oldest lands in the world, with a culture going back thousands of years, and Siberia has been settled for generations. Turkestan cotton, Siberian wheat—these have been raised for centuries; the Turksib connects them. The Soviet considers it the greatest industrial exploit it has achieved so far.

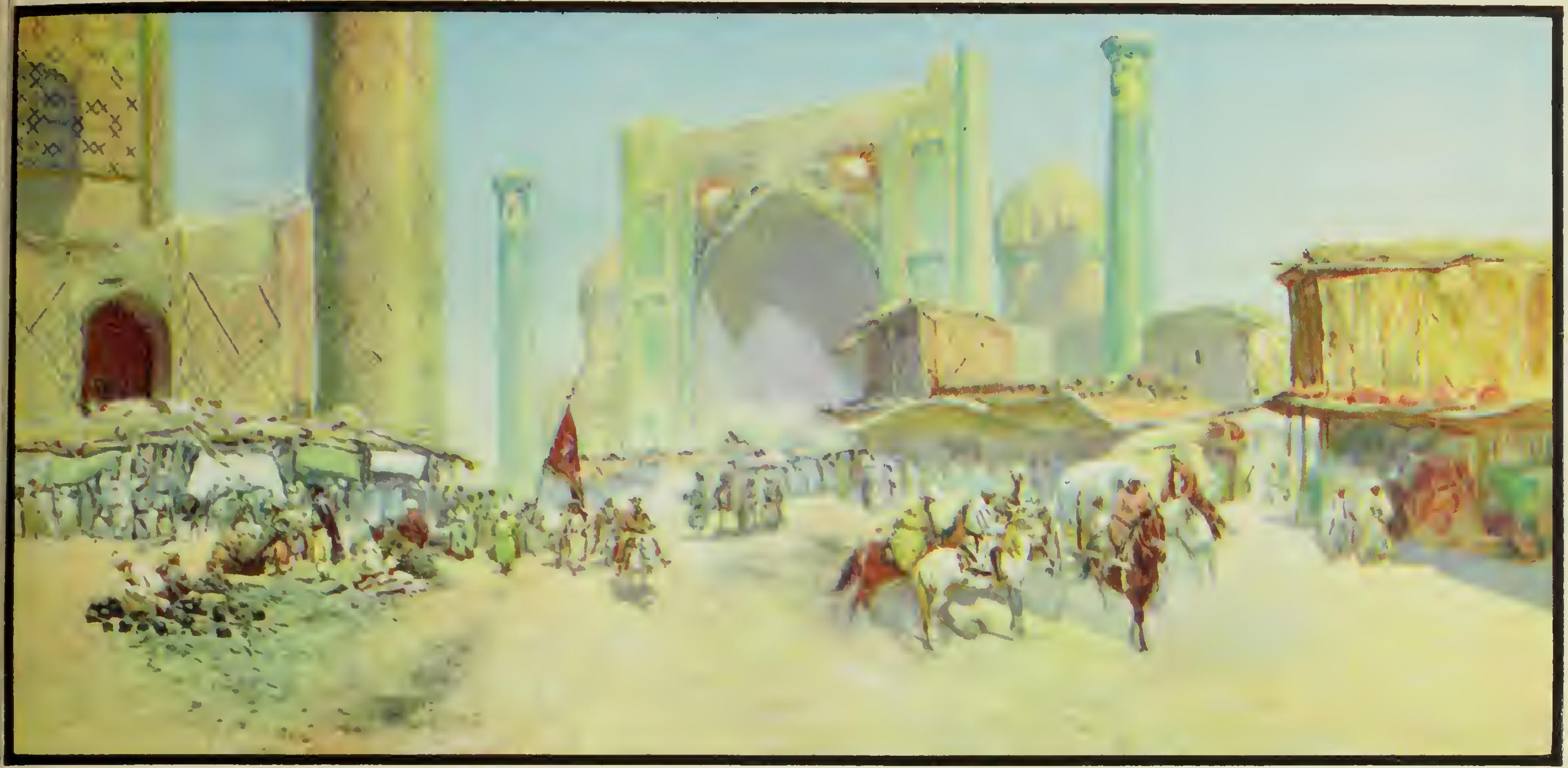
The Turksib is the climax of Bill Shatov's brilliant career as an anarchist executive. Only one Soviet project outranks it: the Dnieper River hydroelectric plant, the dam for which is now being built by Colonel Hugh Lincoln Cooper, builder of the Muscle Shoals dam. One wonders whether the Colonel, too, will be tossed high in the air when his job is completed. Unlike the Colonel, Bill Shatov is no engineer. He is an executive. He was put in charge of the Turksib about a year after it had been started. At once he showed himself as able a master of men and money as any of the coal or textile barons he fought back in the States. He cut down the original estimate of $105,000,000 to $90,000,000 in actual expense. He put the job through almost a year and a half ahead of its original schedule, largely by overriding blue prints and red tape in a high-handed manner. No engineer, he did not hesitate to save time and money by drastically changing the engineers' route around a certain mountain range. Nature was a more stubborn opponent than red tape. Much of the route lay through desert

[*Continued on page 48*]



Courtesy Chicago Pneumatic Tool Co. *Amkino* *Courtesy Railway Age*

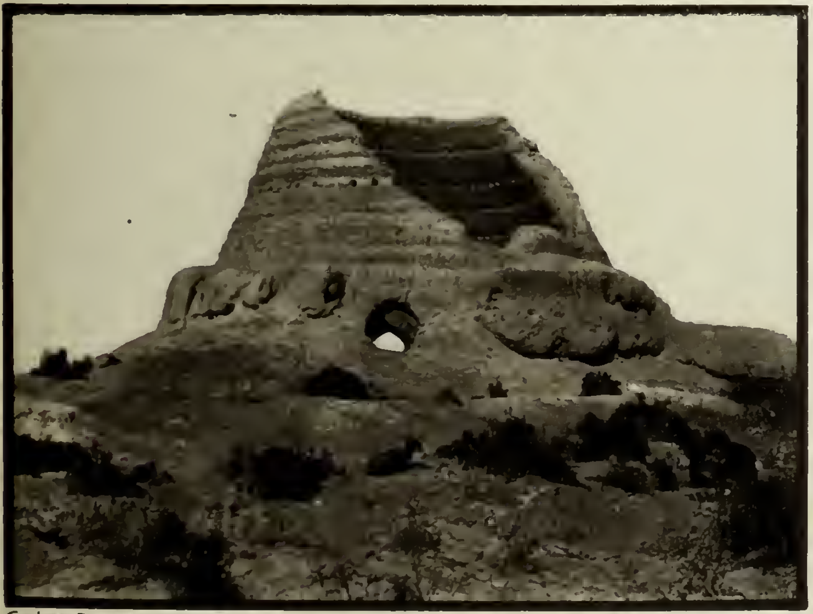
SOME AMERICAN TOOLS WHICH HELPED BUILD THE TURKSIB. CHICAGO PNEUMATIC DRILLS (LEFT) BROKE UP ROCK WHICH MARION STEAM SHOVELS (CENTER) SCOOPED INTO AMERICAN CAR & FOUNDRY DUMP CARS (RIGHT)



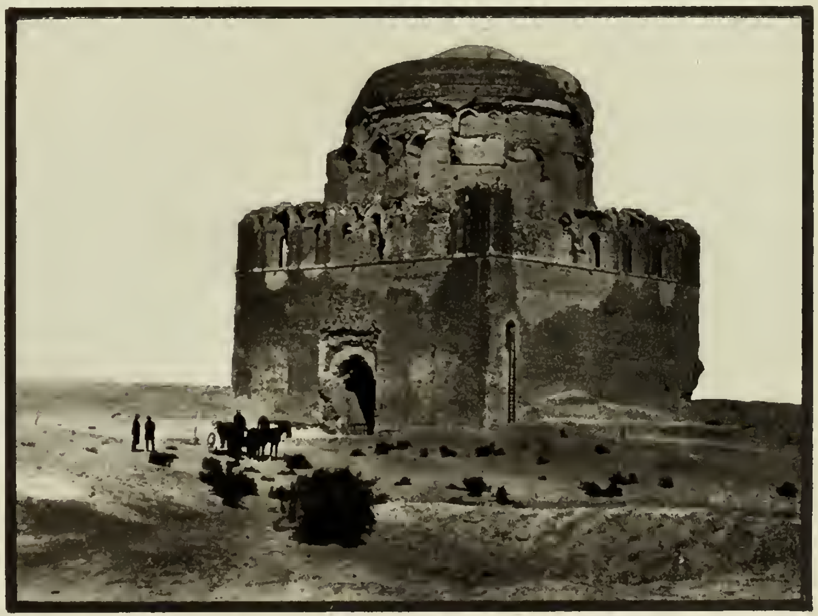
"WORLD'S NOBLEST PUBLIC SQUARE"—THE RIGISTAN IN SAMARKAND. PAINTED FOR THAT GREAT ORIENTALIST, CHARLES R. CRANE, BY GIGA GABOYEFF, WHOM MR. CRANE DISCOVERED

THE Turksib's tail is in Turkestan, where are the ancient, storied cities of Samarkand, Bukhara, Merv, Khotan. It was Lord Curzon who called the Rigistan in Samarkand "the noblest public square in the world," and it was Charles R. Crane who had it painted (see page 4). Sophisticated travelers will recognize the low building in the right foreground as the best restaurant in the city. Scholarly travelers will identify the gorgeous archway and tiled pillars in the center as the Shir-dar ("Lion in the Sun"), one of the colleges fronting the square. The oldest of these is that founded in 1434 by Ulugh Beg, learned grandson of Tamerlane. Outside the city is a great marble ruin, that of Ulugh's observatory, where, with cunning astronomical instruments that ran on metal rails, he revised the Ptolemaic tables of stars. One of the great centers of Asiatic culture, Samarkand has been sacked by the best people, notably, Alexander the Great (in 329 B.C.) and Genghis Khan (in 1221 A.D.). The greatest name associated with Samarkand is that of Tamerlane, who made the city his capital, building many a mosque and many a tomb, his own among them. Loveliest of his mosques is the one he built for his beloved wife, Bibi Khanum. To his architects he said, "One month to plan and one year to work. Great rewards for success and death for failure." After several batches of architects had failed—and died—the mosque was completed to Tamerlane's satisfaction, and he bowed down the builders with gold and silver. But after the epoch of Tamerlane the city fell from glory. In modern times it was conquered by the Amir of Bukhara, he whose summer palace the Soviet has ironically converted to an insane asylum.

Ancient is Samarkand, but still more ancient is Merv, which is surrounded by sixteen square miles of ruins. Here was once another great center of Moslem learning, here studied the historian Yaqut, here ruled successively Persians, Arabs, Turks, Mongols, and Persians once more, and here, Moslems still believe, was the original cradle of the human race. Today the ruins of Merv are silent and deserted. The lion and the lizard keep the palaces of Turkish sultans and Christian archbishops. Below are two of the most notable remains: to the left, a beehive-like reservoir; to the right, the noblest ruin of them all, the 12th century tomb of Sultan Sanjar.



Graham Romeyn Taylor



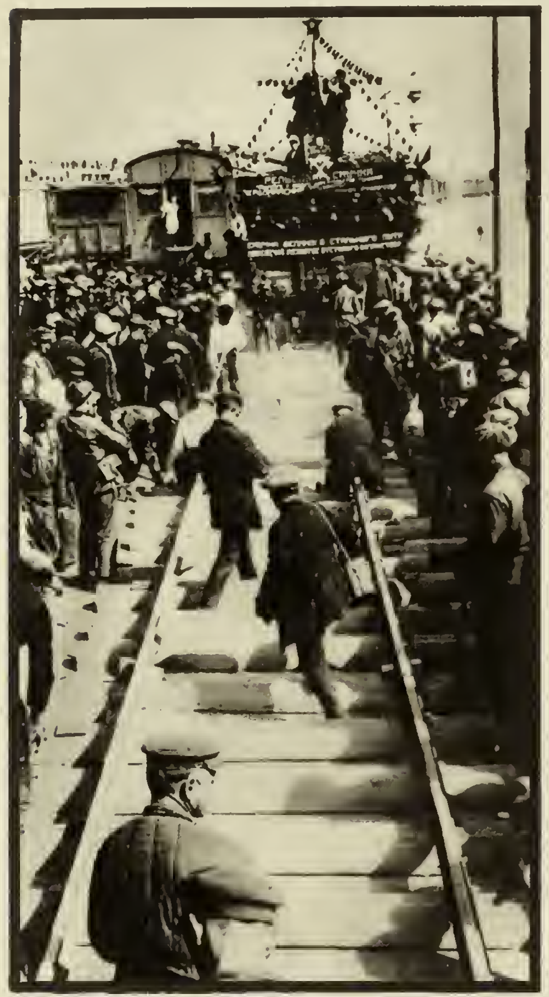
Graham Romeyn Taylor

L'Illustration-Brosshard-Photo

ACROSS THE DESERTS OF TURKESTAN 200,000 CAMELS PLODDED WITH THE RAW MATERIAL FOR A RAILROAD

Amkino

AT THE OTHER END OF THE TURKSIB SLEDGES BROUGHT IN MANY A LOAD OF SIBERIAN TIMBER



Wide World

THE LAST RAIL IS LAID AT AINABULAK (SEE MAP), JUST EIGHTEEN MONTHS AHEAD OF SCHEDULE

lands over which 200,000 camels and many tractors laboriously carried tools and material. Shatov pushed the line through the wind-swept Chokpar Pass during the coldest winter Central Asia has known for fifty years. At one time, in the summer, 60 per cent of his engineering staff was down with typhoid.

The ceremonial tossing of Bill Shatov took place one day last April in a broad valley near the hamlet of Ainabulak. There the rails met; there Big Bill drove the final spike in his handiwork. All day there were games, wild and barbaric as in the days of Genghis Khan, whose horsemen once scoured these immemorial plains. Several thousand riders wheeled and maneuvered in the valley, charging in squadrons, wrestling each other on horseback for prizes of silks, sugar, tea, and the like. On the hill slopes were dotted like mushrooms the felt tents of the Kazaks. While the young men played their strenuous horse games, the older men, the women, and the children gathered in front of a red-draped platform. Emphatic, gesticulating Bolshevist orators boomed out Soviet platitudes through loud-speakers. Bill Shatov was decorated with the coveted Order of the Red Flag. Overhead a monoplane droned. Confronting each other in dramatic contrast across the double line of steel rails were the Marxian Socialists who had caused the road to be built and the barbaric nomads through whose country the rails were laid. To each group the Turksib meant different things.

To Kazaks: terror, fascination

Behind any feeling a native might have towards the Turksib are centuries of history. He may live a nomad life on the vast, rolling Kirghiz Steppe or he may be a cotton-grower or cattle-breeder down south in Turkestan. Whichever he is, he can look back on millenniums of history. He is the product of the successive waves of Mongols, Huns, Tartars, Turks, not to mention a dozen more outlandish peoples, that have run over these ancient plains like slow-burning prairie fires. Since the days of antiquity camel trains have followed the "Golden Road" from China to the West, stopping at such storied centers of trade as Samarkand and Bukhara. When camel-drivers cry, "Get on, by Iskander!" they are invoking none other than Alexander the Great, who marched over these plains. Near Samarkand the Golden was born Tamerlane, and there he remains in a graceful blue-domed tomb watched over by a hereditary guardian. Over these steppes swept Genghis Khan and his horsemen in a yelling, plundering, irresistible horde to fall like a thunderbolt upon Bukhara, to make Turkestan a province of his mighty Mongol empire. Marco Polo traveled across the steppes as did De Quincey's celebrated

Ewing Galloway

International

Ewing Galloway

LEFT TO RIGHT A CAMEL-DRIVER OF SAMARKAND; BIG BILL SHATOV, OF CHICAGO AND LENINGRAD, BUILDER OF THE TURKSIB; A RUG-SELLER OF MERV

Graham Romeyn Taylor
MOSQUE OF TILLAH KARI IN SAMARKAND. THE FAITHFUL, WHEN THEY BOW TO MECCA, MUST HERE BOW SOUTHWEST

Amkino
CARLOADS OF SIBERIAN TIMBER READY TO BE HAULED OVER THE TURKSIB INTO THE HEART OF TREELESS TURKESTAN

Tartar Tribe, known to every schoolboy. Merv and Bukhara were centers of culture with great libraries and hoary scholars long before America was discovered.

But Tamerlane has been dead, the universities have been ruins for centuries. They have left behind a conglomeration of fantastic races: Tajiks, Kazaks, Uzbeks—call a Uzbek a Sart, and you have delivered the last insult. There people live the life of their fathers and grandfathers in an obscure corner of the globe that once was important. The Turksib may make it so again, but the Tajiks and Uzbeks see it only as a new and strange way of getting from Alma Ata to Semipalatinsk. They are oblivious to political and economic implications. Some of them were amazed to hear from the engineers and surveyors that the Czarist government was no more. Many a Kazak fled into the boundless steppe away from the invading rails. And many thronged excitedly around the construction camps, looking on with the naïve interest of children. Such hardy spirits made up about a third of Shatov's 40,000 workers and after a trade school education will supply many a ticket agent and section hand to the new railroad.

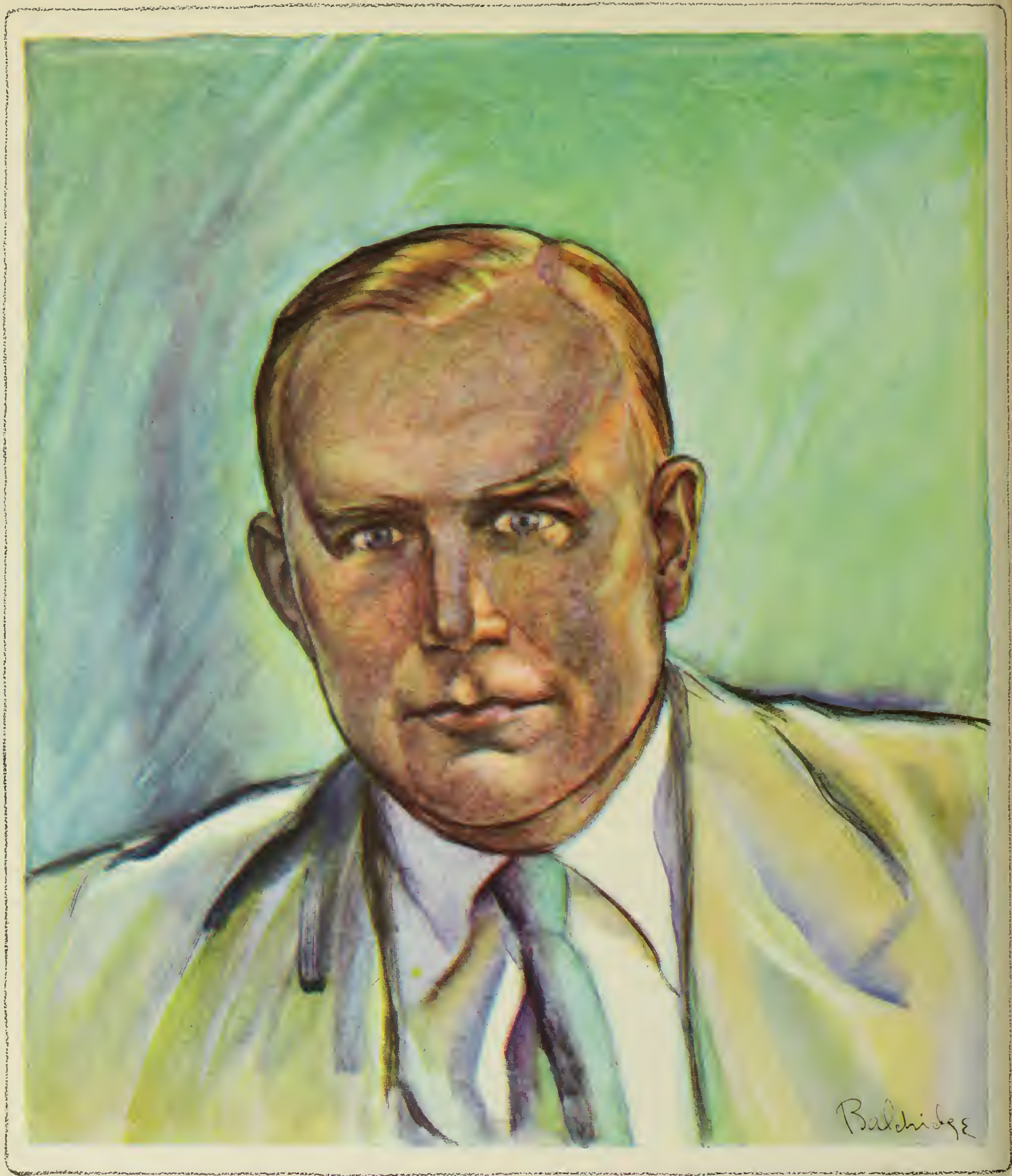
To Bolsheviks: cotton, wheat

To the Soviet it is of little moment whether the tribesmen throng excitedly about the railroad or flee to the hills in dismay. Bill Shatov and his 40,000 did not build the Turksib in order to transport Uzbeks from Ilisk to Dzharkayn-Agach. The reasons for their building it are spread over the map on pages 44-45. At the northern terminus of the Turksib, in Siberia, is one of the world's most famed wheat and timber countries. At the Turksib's southern end is Turkestan, where fine cotton has been grown for centuries. The Soviet has spent some $84,000,000 in the last two years on cotton imported from the United States alone. Once Turkestan is sure of plenty of Siberian wheat, more and more land can be devoted to cotton. Along the banks of the Ili River a $250,000,000 irrigation project is now under way. Arthur Powell Davis, of Oakland, California, one-time head of the U. S. Reclamation Service, is in charge. His headquarters are at Tashkent, a modern city of wide boulevards and white mansions that has displaced ancient Samarkand as the chief city of Central Asia.

[*Continued on page 102*]

Graham Romeyn Taylor
BEHIND THE GATEWAY OF SHAKH-ZINDA IN SAMARKAND SLEEP THE DESCENDANTS OF TAMERLANE

Amkino *Amkino*
THOUGH THE BUILDING OF THE TURKSIB INVOLVED NO ENGINEERING FEAT GREATER THAN PUTTING A 2,000-FOOT BRIDGE OVER STORM-SWEPT IRTISH, THESE ENGINEERS (LEFT) WERE "DEVIL WORKERS" TO THE KAZAKS (RIGHT)



PORTRAIT OF FLOYD LESLIE CARLISLE—*BY CYRUS LE ROY BALDRIDGE*

Add to Tycoons

Carlisle of Niagara Hudson, Mohawk Hudson, Northeastern Power, New York Edison, Eastern States Power, Power Corp. of New York, National City, Consolidated Gas, St. Regis Paper, United Corp., et al.

FLOYD LESLIE CARLISLE is a modest man who was born to be President. He chose public utilities rather than public office, so he will never be President of the United States. But though he is far from the White House, he has done very well with the Power House. He has indeed expanded beyond the confines of an executive and become an Interest. Financial writers include Mr. Carlisle (among others) when they talk of the Morgan-Bonbright Utility Interests. Liberals mean Mr. Carlisle (much more than any other man) when they talk of the New York State Power Interests. Chairman of Niagara Hudson Power Corp., director of Consolidated Gas, New York Edison, and United Corp., Mr. Carlisle is the outstanding New York State utility man and a considerable figure in the group of utility men dominant in the eastern utility field.

Mr. Carlisle is most emphatically a man of action. He is a large man with cold blue eyes and a firm-set mouth and the tycoon's characteristic abundance of energy. But he is also genial, slow speaking, unhurried, issuing suggestions rather than commands. He plays a great deal of excellent contract, in which he succeeds in being the actual player in much more than 25 per cent of the hands. Persuasive in argument, fertile in negotiation, he has an unusual capacity for enlisting other men in his army without jeopardizing his position as general. At Cornell he was president of his sophomore class. In his senior year, he was again class president. In between, he joined the debating society (whose seal he still wears) and here again became the presiding officer.

Nor has the habit of constant leadership ever deserted him. For a short time after his graduation from college he did occupy a comparatively subordinate position. He was at that time a lawyer (in his brother's law firm at Watertown, New York), and Watertown offered few opportunities for legal distinction. Indeed, the best remembered of Mr. Carlisle's accomplishments was his ability to get two members of the Watertown baseball team out of jail every Monday. The team, playing Sunday ball in defiance of the law, would begin its games with a dummy pitcher and catcher whose sole function was to be arrested as soon as they had thrown the first ball. With these malefactors in jail and the majesty of the law satisfied, the regular pitcher and catcher would appear and the game would proceed unmolested. On Monday Mr. Carlisle would appear at the jail, salvage the martyr battery, and repeat the same comedy the following week.

In 1910, however, Mr. Carlisle exchanged law for finance. Two Watertown banks were in a situation inviting consolidation and new management. It found both in Mr. Carlisle, who merged the two banks into the Northern New York Trust Company, of which he soon became president. As a bank president, and on speaking terms with Capital, Mr. Carlisle became interested in the waterpower (i.e., the hydroelectric) possibilities of northern New York and fixed an acquisitive eye upon the St. Regis Paper Co., which was squandering ample waterpower on the manufacture of nothing more ambitious than newsprint and paper bags. So Mr. Carlisle formed a syndicate which in 1916 bought control of the company. President under the new management was Floyd Leslie Carlisle. The paper business was by no means neglected, but power was particularly pushed. Other sites were acquired, the Northern New York Utilities Co. was purchased (chairman, Mr. Carlisle), and in 1926 the Carlisle holdings were consolidated in Northeastern Power Corp., with Mr. Carlisle, of course, at its head. Lying in the far northern section of New York State with no large cities in its territory, Northeastern Power was bounded on the west by the Buffalo, Niagara and Eastern Power Corp., controlled by the powerful Schoellkopf family, and on the south by the Mohawk Hudson Power Corp., sponsored by the even more powerful General Electric and United Gas Improvement companies.

But Mr. Carlisle was far from at the end of his road. In January, 1929, Bonbright & Co. and J. P. Morgan & Co. organized United Corporation, an utility holding company with a considerable interest in Mohawk Hudson. In July, 1929, Mohawk Hudson merged with Buffalo, Niagara and Eastern and the Northeastern Power in the formation of the present Niagara Hudson. To be chairman of the great new company was chosen none other than Floyd Leslie Carlisle. In 1928 Northeastern had had a gross income of $18,000,000; in 1929 Niagara Hudson had a gross income of $80,000,000; thus Mr. Carlisle, still biggest frog, was enjoying a much larger puddle. In April, 1930, he joined the board of National City; in May he was appointed to the directorate of Consolidated Gas—the first appearance of an up-State man on the board of the great down-State (New York City) utility. Furthermore, to accentuate his position as the New York State representative of the eastern utility group, he was also elected to the board of United Corp. itself. Along with him were named five additional directors, all (like himself) heads of companies in which United Corp. was interested. Inevitable, then, was the conclusion that the Morgan and Bonbright partners hitherto dominating United Corp.'s directorate had decided to give their outstanding operating executives an official place in their counsels, and that one such executive was emphatically Mr. Carlisle.

• • •

It is said that Mr. Carlisle, still in his twenties, thought in terms of large numbers and large compensations. Certainly he exhibits the capacity, the concentration from which success is fashioned. He rides and yachts, is little interested in motor cars or motor boats. He comes early to work, returns early to Great Neck, believes in no midnight labors, and delegates all possible duties to well-chosen subordinates. He belongs to the Congressional Golf Club; he has his life insured for $3,000,000; he gave the St. Lawrence University $100,000 to establish a forestry school; he is one of the syndicate backing the *Enterprise*, America's Cup yacht; he has four children and goes home every night; he publishes expensive advertisements selling the industrial advantages (especially low power costs) of New York State; he named one of his yachts *Revenge* and another *Avatar;* he says that he would not ride in an airplane if someone gave it to him.

But his chief distinction and his outstanding characteristic is his desire to manage and his ability to manage efficiently. After joining the Manhasset Bay yacht club, he decided that the club needed a new clubhouse. Encountering a difference of opinion on this subject, he maneuvered effectively and persistently until the anti-new-clubhouse faction suddenly discovered that Mr. Carlisle was club Commodore and the new clubhouse was being triumphantly erected. Sending his children to the Great Neck Preparatory School, he found that the school subsisted chiefly upon somewhat irregular donations from parents of its pupils. Approving of no such unbusinesslike arrangement, he reorganized the school into a corporation with the parents owning the stock. Now, prosperous, the Great Neck Preparatory School is widely known for the high salaries paid its teachers. As a little boy, Mr. Carlisle doubtless liked to take things apart and see what made them go. But putting things together and making them go would appear to be the major interest of his adult years.

Salt

The commodity that has not lost its savor. Its Fullers and its Mortons, its industrial versatility, and its extraction from rock and from water. With a note on Pepper.

SHOULD an American Gandhi start a "back-to-the-sea" movement in salt he would not worry the government, but he might annoy two families: the Fullers, of Scranton, and the Mortons, of Chicago. For the Fullers and the Mortons dig out or dry out considerably more than half the 5,000,000 tons of salt that American industry must use each year and American citizens eat. Mortimer B. Fuller rules "world's biggest producer" International Salt Co. as his father Edward L. ruled it in his day and as his son, also Edward L., will probably rule in his. Mortimer B. Fuller, Princeton '99, is a name to conjure with in Scranton. Mr. Fuller is suave, social, with a taste for horses and other classic diversions. Not so old Joy Morton, immemorial head of Morton Salt, "been in the salt business longer than any other individual." He is bald, hates it, and so wears a toupee. His father was Cleveland's Secretary of Agriculture, and his brother was Roosevelt's Secretary of the Navy and father of Mrs. Harry Guggenheim, wife of the U. S. Ambassador to Cuba, and of Mrs. Charles Sabin, ardent foe of prohibition. At seventy-five he is still boss of Morton Salt, which the Mortons own, and a pillar of Chicago society. One might say a pillar of salt.

Competition

While Gandhians gleefully make salt in India, the Fullers and the Mortons with even greater glee make salt in America. International in particular rejoices, for it seems to be entering on fat years after some very lean years in the past. Salt prices and salt prosperity depend mostly on "trade conditions," which means first and very nearly last: Competition. International and Morton get on well together, but there are many other salt-makers—sixteen of them are capitalized at over $1,000,000 each. From 1923 to 1928 a competitive battle royal was waged in the salt industry. As the fight grew fiercer International's earnings dropped lower, until the first six months of 1928 saw a net income of just $3,108. Then some companies dropped out, and International's net for the second half of 1928 shot up 11,000 per cent to $344,477. Trade conditions continued to improve, and International's net rose to $687,800 in 1929, the highest it has been since 1922. Company officials look forward to an equally happy 1930, perhaps to some extent because International gathered unto itself this April for $2,000,000 Sterling Salt. International reached one earning climax during the depression of 1921-23, and it looks as if it were approaching another during the depression of 1929-30.

Salt would thus seem to be a curious introvert among American industries, continuing on its way unaffected by penury or prosperity outside itself. Comparatively speaking, the salt business is good these days. Salt prices are not greatly depressed, though commodity prices are shaken to their foundations, though silk and sugar futures have been making new *all-time* lows on New York exchanges. A commodity which is so extensively used in industry as is salt must feel the effect of any general depression. But for the most part competition is the ruling factor in the salt business, which for this reason appears strangely sufficient unto itself. Thus salt has not lost its savor as much as most commodities today.

Fullers, Mortons

Complexly intertwined are the histories of International and Morton. In 1902 International, one year old, made Joy Morton & Co. into International Salt Co. of Illinois. Then in 1910 Joy, old even then, bought out International of Illinois and formed Morton Salt. The companies are still on good terms. Morton, which calls itself world's largest distributor of salt, is selling agent in the West for the rock salt dug up by International, which calls itself world's largest producer of salt. Morton produces no rock salt, which is the kind most used in industry, but believes itself to be the world's biggest producer of evaporated salt, used for preserving and seasoning food. Relative size is the only thing about which International and Morton quarrel. Being privately owned, Morton gives out no figures, but it insists that it is not eclipsed by International. Certainly the $10,000,000 at which its plants are capitalized is impressive, though International puts a value of $11,250,000 on *its* plants.

Mortimer B. Fuller believes in salt. He has a salt water swimming pool on the grounds of his estate outside Scranton into which every two weeks are dumped two tons of International salt. The water in his house is softened by a salting device. Outside of salt, he has been most interested in horses and Republican politics. Fanciers of saddle horses may remember his championship gelding, Amber Crest.

Joy Morton's most absorbing non-salt interest is trees. On his 2,000-acre place at Lisle, Illinois, near Chicago, he has a private arboretum (eventually destined for the state) that is said to be the largest in the country. Nearby lives his brother, Mark—gruff and also interested in trees. The brothers inherit their bent for forestry: their father, J. Sterling Morton, the former Secretary of Agriculture, founded Arbor Day. Brother Mark dresses like a farmer and takes little part in the family business, though he is still a vice president. Joy, however, still comes to the office quite regularly. Daniel Peterkin, treasurer and general manager, is the other and more active power in the company. Joy does not spend money uselessly, despises the stock market, and hence invests his millions only in industries he believes to be constructive. Thus he and Daniel Peterkin have put a good bit into the Teletype Corporation, of which Joy's son, Sterling, is president. Morton Salt is owned chiefly by Joy, Sterling, Mark, and Peterkin. None of them seems to know who conceived the famed slogan for Morton table salt: "When it rains, it pours."

Salt in industry

Salt is to industrial chemistry as copper is to electricity. It is the base of the vital alkali chemicals. From salt come the sodiums (sodium sulfate, soda ash, caustic soda, etc.) and the chlorides (hydrochloric acid, chlorine, etc.). And here should be mentioned the Pennsylvania Salt Manufacturing Company, which manufactures no salt. Though Pennsylvania is bigger than either International or Morton, though it has been in business since 1850, it has only an incidental place in an article on salt. For it is a maker of heavy chemicals rather than of salt. It gets its salt in solution from many a brine well in Michigan—but brine is not salt.

Industrially salt is used . . .

. . . By meat packers and fisheries as a preservative. The salt enters the cells and dries them out, thus making it impractical for bacteria to exist therein . . .

. . . By ice cream makers, etc. as a refrigerant. Salt plus ice is colder than ice alone because the salt draws heat into the ice. This melts the ice, but cools off the object being refrigerated . . .

. . . By railroads to melt snow and ice off the tracks (over 50,000 tons a year) and to kill weeds (as, anciently, the Romans plowed over the site of conquered Carthage, sowed salt to render it eternally barren) . . .

. . . By farmers to liberate the potash in the soil

[*Continued on page 104*]

Margaret Bourke-White

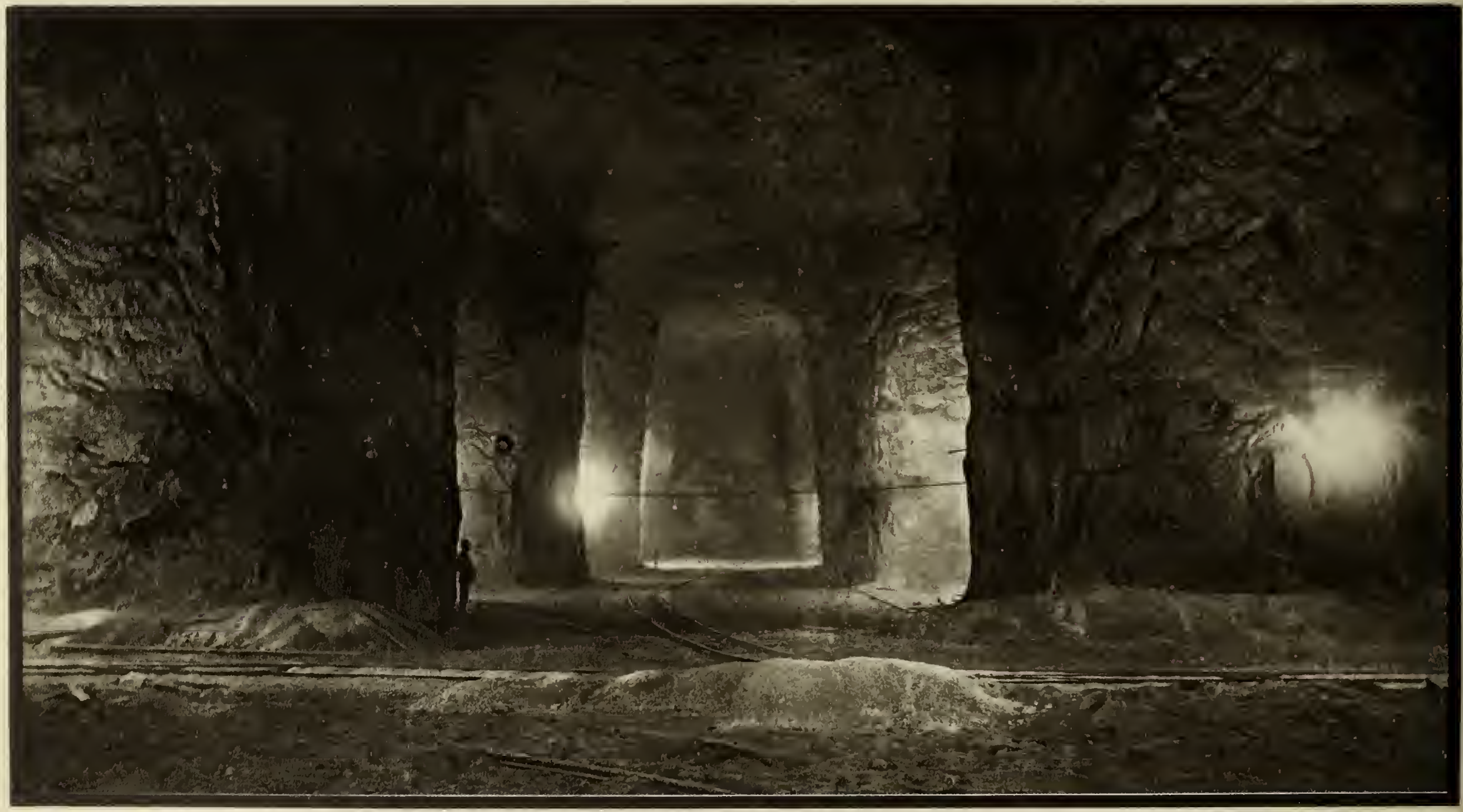
The International Salt Co.'s mine at Retsof, New York, is the largest to be developed in recent years. Like all salt mines, it is a miner's paradise: no gas (hence no explosions) and no water. Above are miners working away with electric drills at a ten-foot vein of salt. Later they will use dynamite and power shovels. Below is a fast freight on the mine railway. These pictures are from the mole's-eye viewpoint of the miner. For a more general idea of salt and its source, turn the page . . .

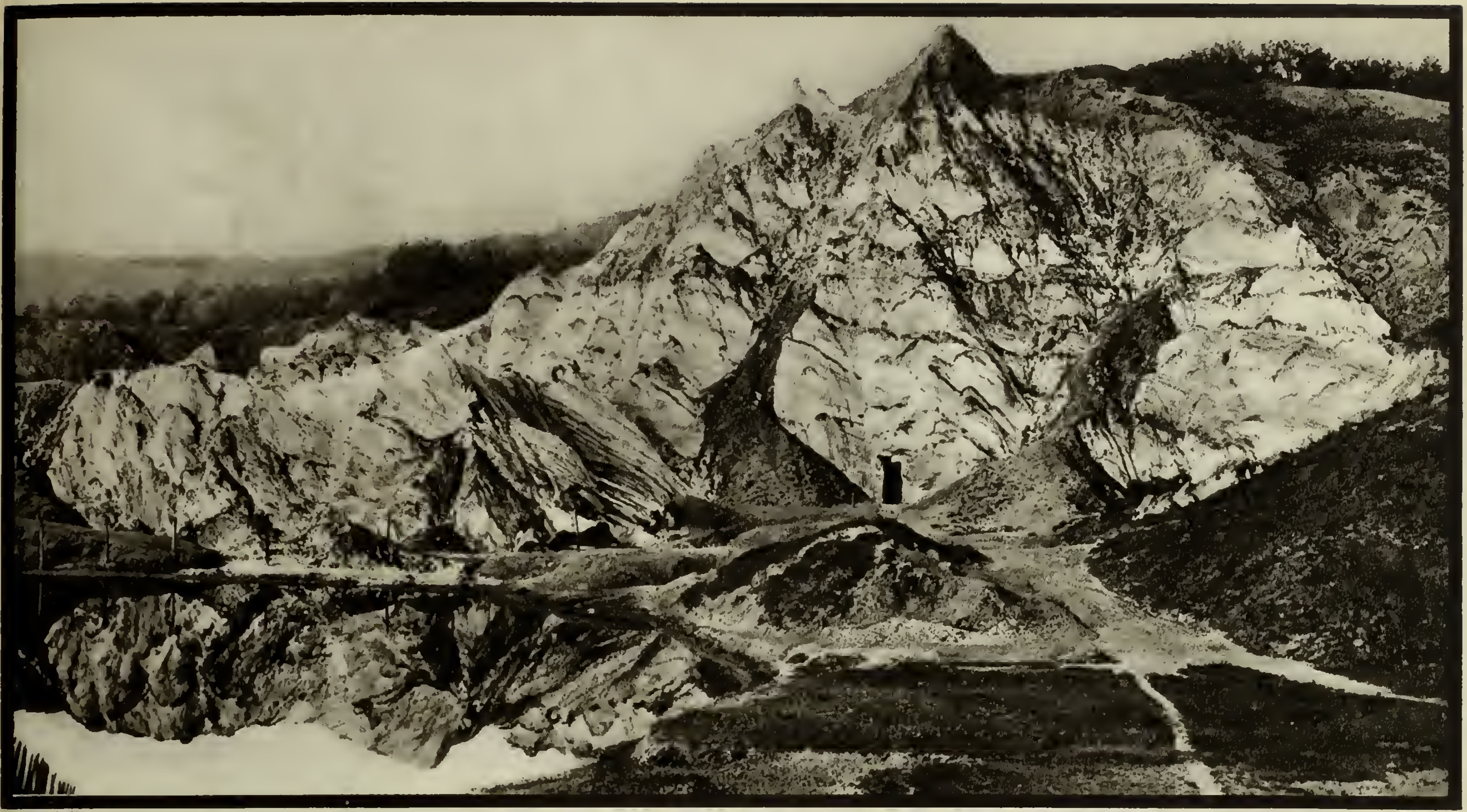
BURLINGA
PUBLIC
LIB.

Margaret Bourke-White

Publishers Photo Service ©

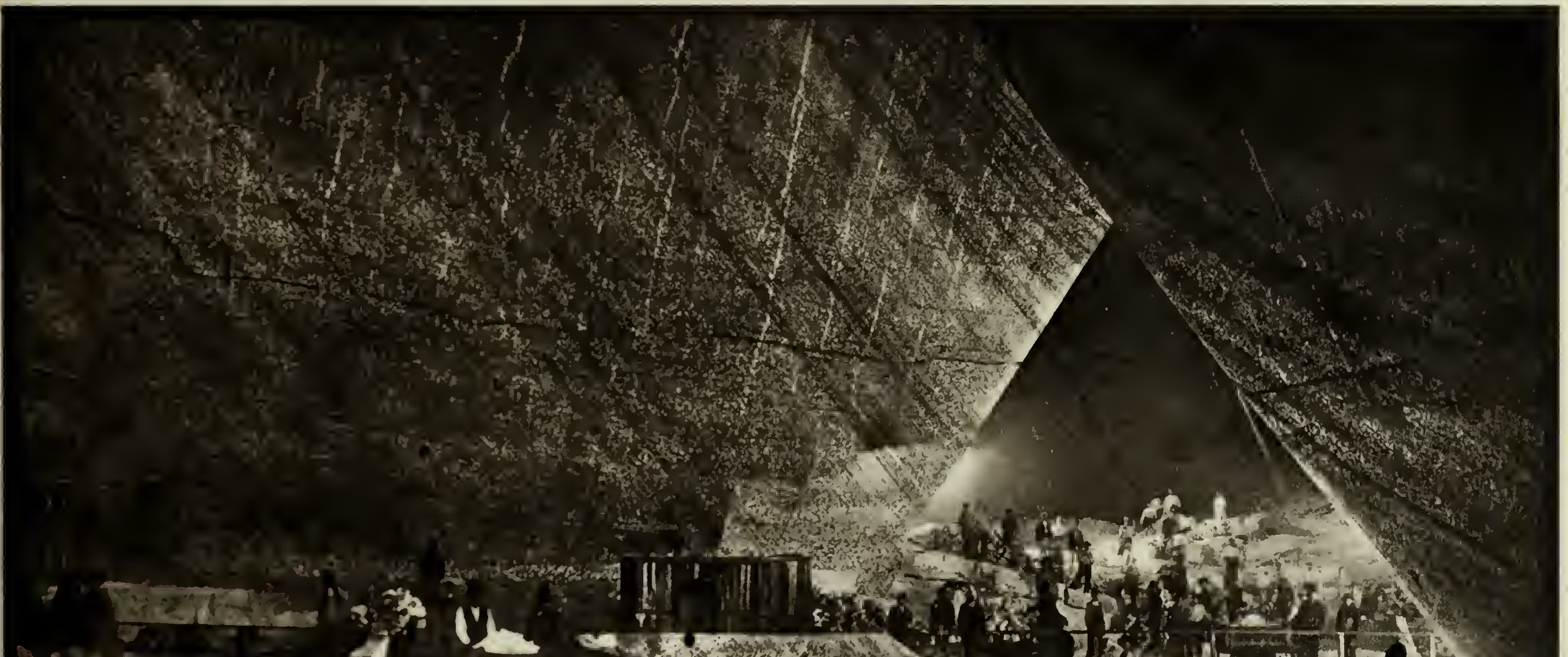
This is a pile of salt. It might be almost anywhere as salt exists almost anywhere. It happens to be in Spain. Its sparkling whiteness shows it to be evaporated from brine: half the U. S. tonnage is thus produced, the other half being mined. Below is the impressive interior of the country's oldest salt mine, on Avery Island, Louisiana. This mine is worked on the "room-and-pillar" method, which leaves great pillars of salt to support the roof. At Retsof, with the same method, 37 per cent of the salt is left in the mine as pillars . . .



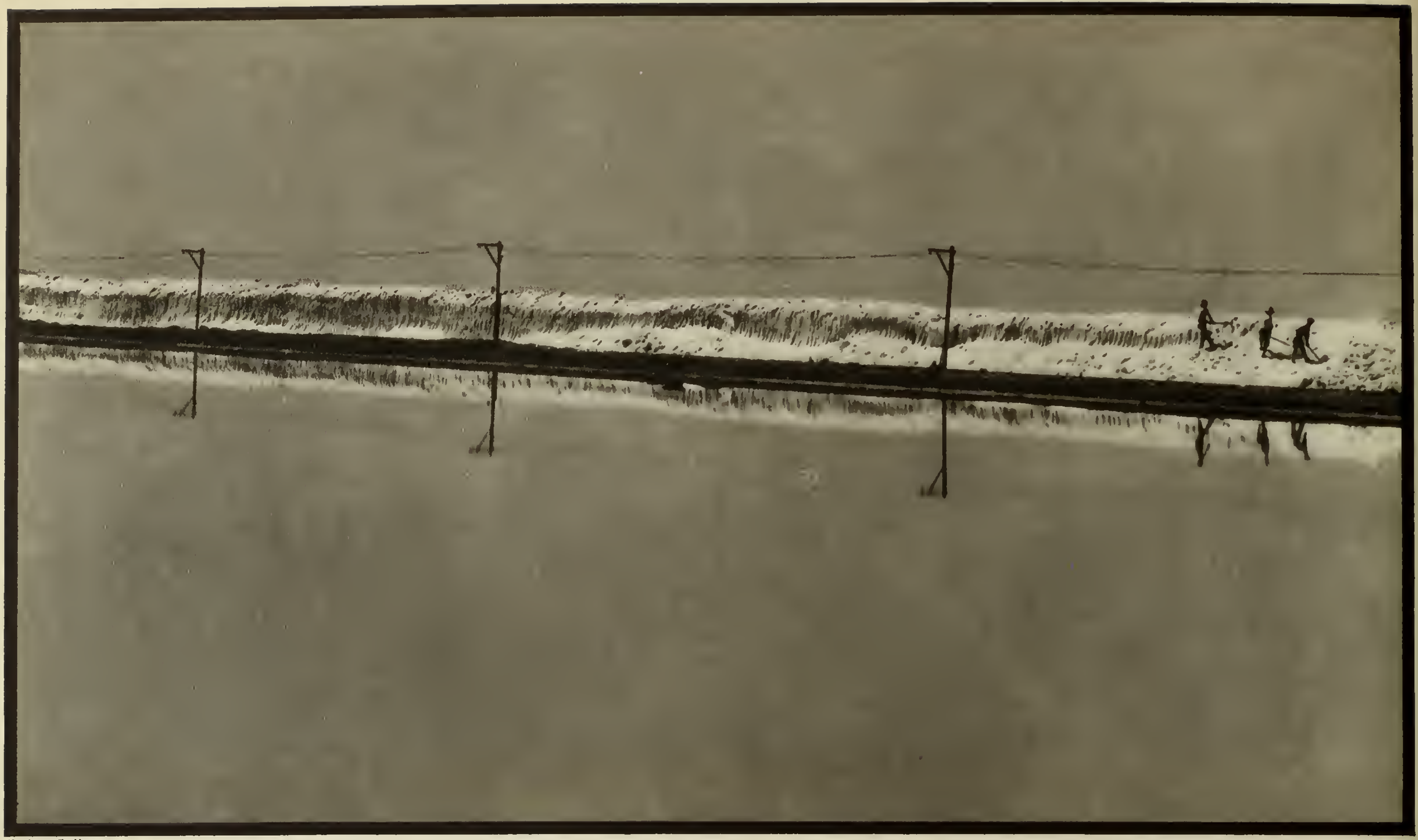


Ewing Galloway

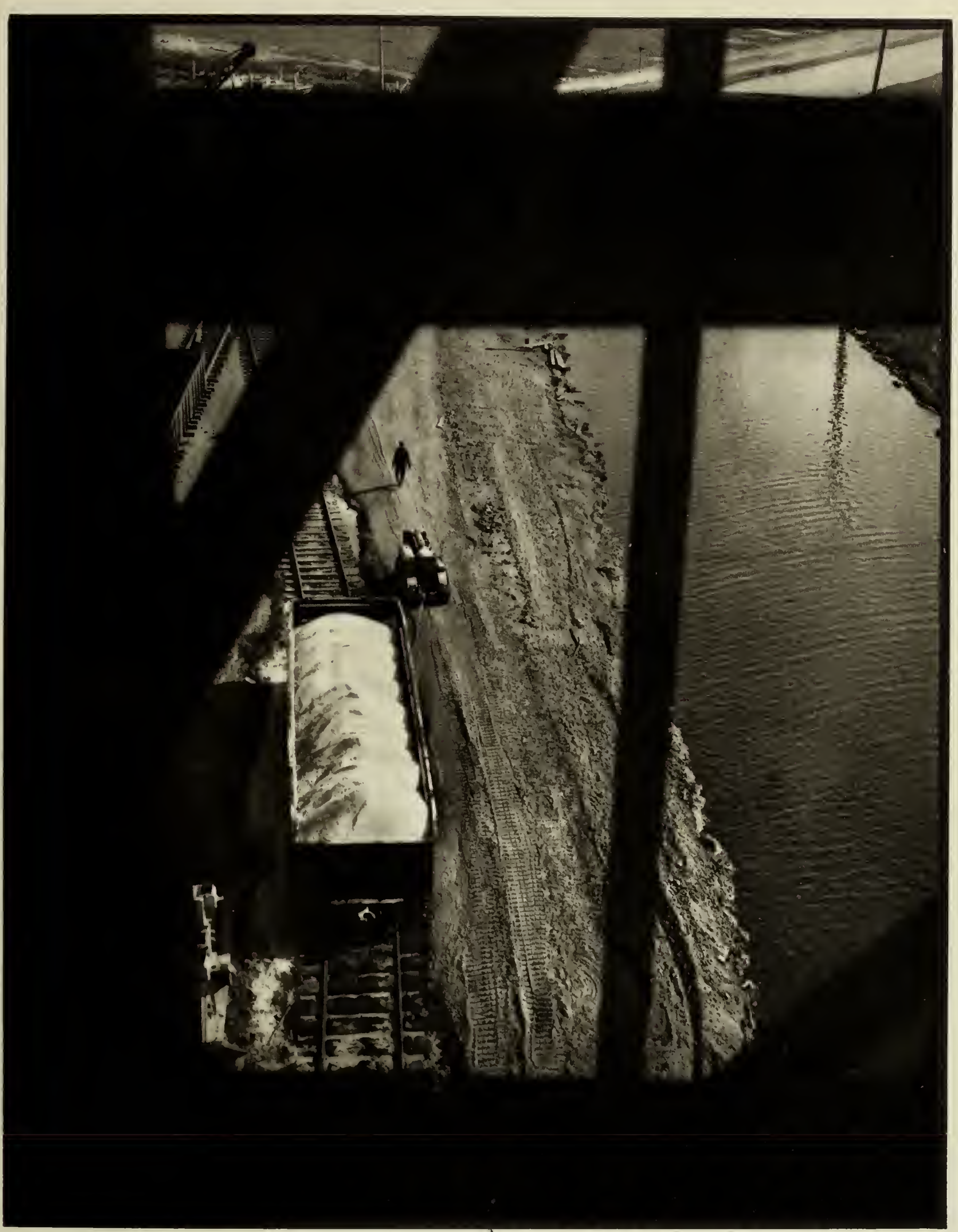
At Slanic, near Bucharest, Rumania, stands this strangely contorted mountain. If an inquisitive traveler should follow the line of electric light poles, he would be led, like the children of Hamelin, into the very bowels of the mountain. There he would come upon the futuristic setting shown below, which is nothing more or less than a salt mine. The walls are cut slopingly in order to hold up the roof, a variation of the "room-and-pillar" method. With which, let us turn from rock salt to its more primitive brother, evaporated salt . . .



Ewing Galloway



Ewing Galloway



The most ancient (and obvious) source of salt is the sea. And the most ancient salt miner is the sun. On the Pacific Coast, notably in San Francisco Bay, sea water is let into wide ponds (opposite, above). After seven months of solar evaporation, the crop is harvested by tractors (opposite, below). Immediately above is a carload of freshly washed solar salt.

BURLINGAME
PUBLIC
LIB

Economics Scarcely Exist

In India. But by inciting a national consciousness Gandhi may also quicken the "economic motive."

THERE are approximately 340,000,000 people in India, and the number remains more or less constant though tens of millions may die when the monsoon rains fail or the plague kills. Of the 340,000,000 not many more than 3,000,000 labor in India's principal industries. The fact, not surprising but important, is that the Indian does not want to work. Mr. Gandhi may perceive an economic and moral injustice in the Salt Tax (and Ramsay MacDonald, incidentally, has agreed with him), but the real point is not that the native does not want to pay a tax, but that he does not even want to earn.

India is sure of her culture, sure of her religion, sure of her soul. Beyond these certainties, she asks, why should she strive? The native feels no incentive from within, no zeal to "seize" an opportunity to double his toil in order to quadruple his goods. For has he not already enough, a hut, a loin cloth, and some dung to burn? In examining the industrial structure of India we are looking over an imported Western machine which is obliged to operate in at least a partial vacuum or absence of the Western "economic urge." The Indian would rather behold the jewel in the lotus than have *two* loin cloths or a hut through which the wind does not blow. Thus India, a land of no economic motive, and to speak of it economically is to speak chords to a flute. Whatever the implications, therefore, of Gandhi's boycotts and his march to the sea, to the majority of his compatriots they have no economic value. Economics does not interest them. They are not moved by the economic motive.

This holds for most of the 340,000,000. But although India's merchant princes have disappeared with the days when India exported the finest muslins and embroideries in the world, there are still the sons of Jamshetji Tata, there are still Parsees and mill owners, there are still the 3,000,000—and these feel the economics of Gandhi, who is a little of everything, but least of all an economist.

For India in the first place is a land of rich resources. There is petroleum to the east in Burma and iron in Jamshedpur; there is coal in Bengal and Bihar and Orissa, and gold in Anantapur and Kolar. There is salt in the Punjab and Rajputana, and sea salt factories in Bombay and Madras. And manganese. And mica. And lead and silver and copper and zinc. And wolfram and rubies. And 78,000,000 acres of rice, and wheat, and more cotton than any place in the world except the United States. And jute.

And in India most of the capital is foreign capital, for it is foreign capital that has mostly industrialized whatever is industrial in India. Two of the largest jute mills are Morgan-owned and American; the cotton export trade is largely handled by a Swiss firm and a Greek. The limousines that you see in the streets are Italian or British. The trucks are American. The finance and industry, export and import of the West are superimposed (perhaps artificially) on the placid indifference of India itself. The structure sometimes seems ridiculous and unbalanced, like a plate on top instead of under a glass of iced tea. India has produced only one great industrialist, Tata of iron and hydroelectricity, and he is dead. But his sons live on.

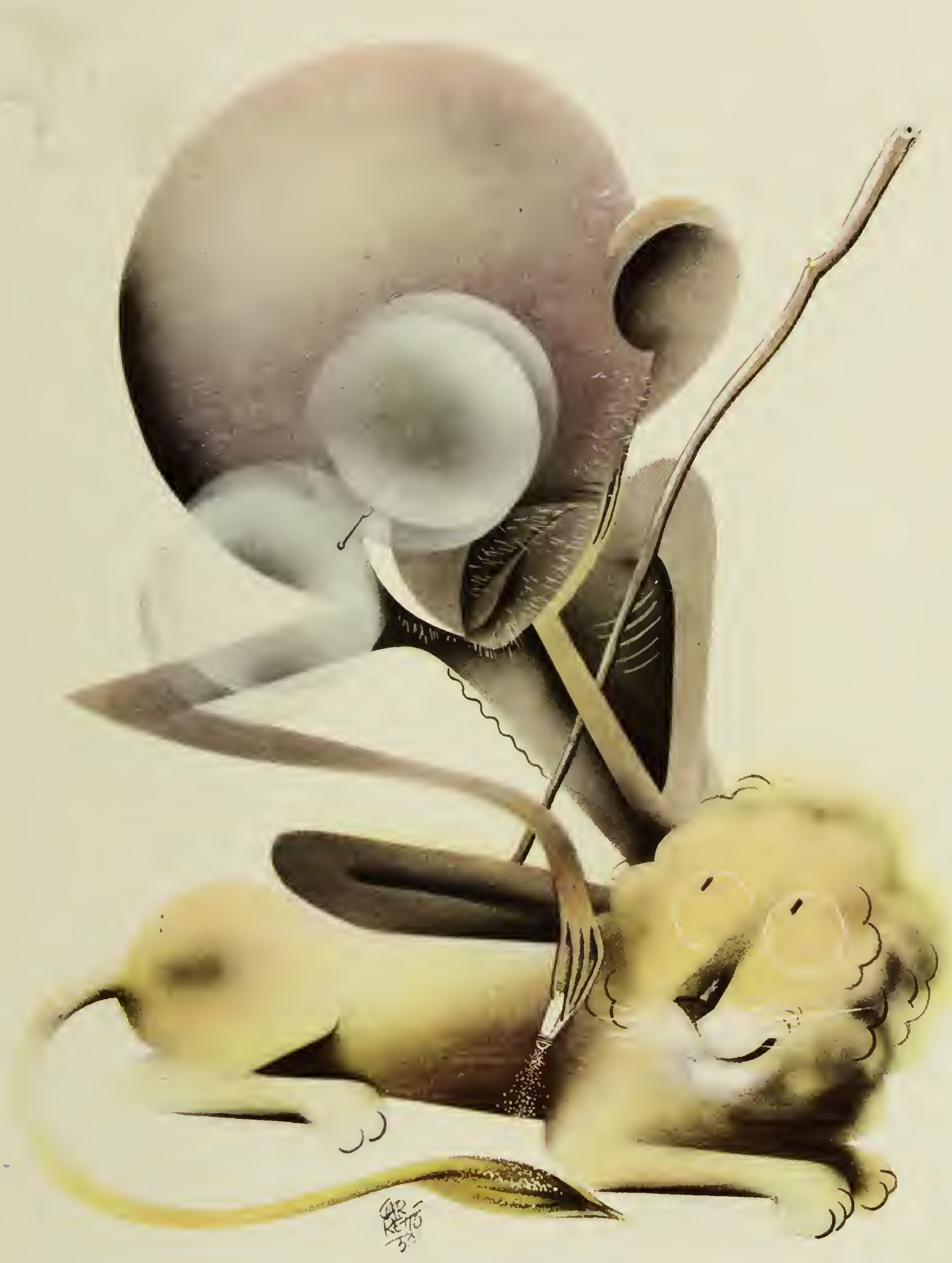
One must mention the Tata Iron and Steel Company, Ltd. Overcapitalized and often getting only half-hearted support from its directors and stockholders, it is nevertheless India's greatest private industry and is virtually the country's only steel mill. Sometimes it has had government support; sometimes it has not. But it can produce the world's cheapest pig iron. Although its steel is much more expensive than American, its failure in India would mean that decent wages and labor conditions were absolutely of no avail, that no matter what India's resources might be, the temperament of the native is such that no industrial India will ever be possible.

This, be it said, has not yet been proven. India bitterly lacks technicians and trained managers, and the educated class of India persists in refusing to study for such careers. Meanwhile thousands of "lawyers," speaking broken English, barely subsist. Of 175 directors of Bombay cotton mills, only eleven have had practical training (and four of these are directors of the same mill which, needless to add, is among the most successful). The case is further pointed by India's chemical industries. In raw products India again is well supplied. Yet it produces few important chemicals and these not in large quantities. Its cottonseed oil (India could produce 200,000 tons annually) is largely wasted. Its soap industry, probably by-product of a cottonseed oil industry, has never advanced because India lacks the necessary chemists and instructed soapmakers. Corollary industries like manufactures of barrels or boxes are nonexistent.

Perhaps the soundest industry in India is jute, which is virtually India's monopoly. A steady flow of jute has been exported from India since the beginning of the century. France and Germany take most of the raw jute; jute bags go first to Australia for their wheat, then to Java for the sugar, then to China. The United States takes most of the gunny cloth. More than 50 per cent of the stock is held by native Indians, but the industry is dominated by Scots (Dundee used to be India's great jute rival). At one time virtually the entire industry was in the control of the late Sir David Yule, who left a fortune estimated at $100,000,000 to his daughter, Gladys. A few years ago, however, his interests were bought out by J. P. Morgan & Co., who with Ralli Bros. now practically control the entire industry.

But Gandhi cares not for this industrial facet of India. When he makes his speeches, spinning the while on his little hand loom, he preaches an independent self-supporting India, and he would be the first to admit that this is tantamount to a return to the primitive. "Boycott all English goods," says Gandhi (and incidentally it was a Western knife in a British hospital that operated on him for appendicitis). Economically this might mean that countries other than England would profit at England's expense. Actually countries other than England will probably boycott India. Not out of sympathy for England, but because they are forced to doubt India's ability to pay. But Gandhi is not deterred by this consideration. "Boycott all English goods," he repeats and increasing numbers of natives agree with him.

And, oddly, in this increasing agreement with Gandhi and this increasing consciousness of Gandhi lie the very factors that may defeat his schemes for a return to a quasi-primitive self-sufficient India. For it is a fact that in most of the Indian dialects (and there are upwards of 300), there is no word for India. It is a fact that the greatest part of India is totally without national consciousness. And it is a further and a most important fact that in Gandhi is crystallized and dramatized whatever desire for nationalization exists in India. Whether he wills it or no, Gandhi is creating national consciousness (as there is in Canada, as there is in Australia). He is beginning to make India's 340,000,000 realize that not only do they belong to their local tribes, but that they also form part of an integral country called India. It would be almost impossible for such a national consciousness not to express itself in economic betterment. An ironic conclusion is therefore possible, namely, that a movement designed to remove the West from India may result in a far more rapid Westernization of India than has ever before occurred.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London Graphic

"GANDHI, THE TAIL-SALTER"
BY GARRETTO

Skyscrapers: Pyramids in Steel & Stock

FORTUNE pursues its examination of the building of a skyscraper: How are these towers financed: What earnings are there and against what costs: Who pays: Who profits: Who loans to whom, on what security, to what extent, and when: Together with a gallery of brokers, bankers, bond house men, and building financiers.

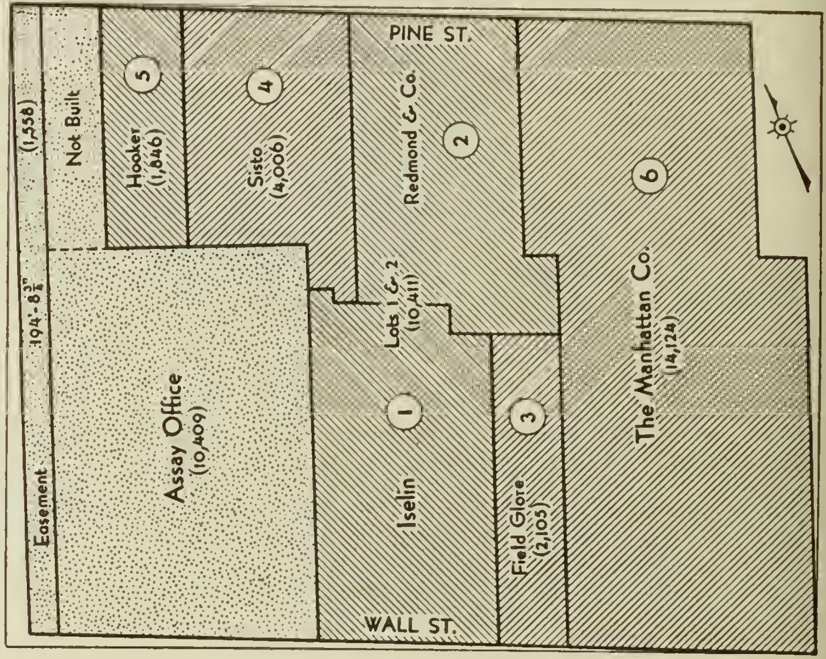
ALL a man needs, to own a skyscraper, is the money and the land. And he may be able to get along without the money.

But since there is no known substitute for land and no satisfactory legal device by which the investing public can be induced to bring its own, the promoter must secure the land. And its acquisition is not easy. Land capable of producing skyscrapers and keeping them green is as limited in quantity as it is unlimited in price. And it practically never exists ready-made in blocks of sufficient size for the requirements of modern building.

Consequently the first concern of the promoter of a great building is the assembling of his plot. The transaction may proceed in any one of a number of different ways, and it may even occur that the land seeks out the promoter, as when a real estate man with no personal intention of building offers a group of lots already assembled. Also the promoter may be any one of a number of different persons. He may be a builder or a speculator or some such conglomerate of corporations as the French companies or a mere member of the great American public with a hankering for real estate. If he is a builder, he will probably devote his energies to assembling not only plots but plot owners and future tenants as well, so that his activities will finally resolve themselves into the construction of a definite building for a definite tenant to be turned over to definite owners. But even a builder may be, and frequently is, organized for so many other functions besides that of building that he may himself carry the whole project.

In the simplest case a gentleman with a building in mind, a location in view, and a certain amount of cash, which may or may not be borrowed, in his pocket, undertakes the promotion. His first step is to consult with the real estate brokers. If he has complete confidence in some one office he may confide his plan to that office; otherwise he will apply to several brokers, commissioning each of them independently to buy some one of the several plots he will require. The land for 40 Wall Street was assembled by Brown, Wheelock: Harris, Vought & Co., Inc. in conjunction with Charles F. Noyes & Co., Inc. The Adler property at 80 Wall Street was assembled by Charles F. Noyes alone. In either type of case the probability is that the actual negotiations for each plot will be apparently conducted by unrelated brokers and for separate purchasers. Title to one lot may be taken by the real estate house which, in turn, writes a letter to the promoter stating that it holds the land for him—in effect, a declaration of trust. Title to another will go to a corporation organized by the promoter's attorneys for the purpose and bearing the street number as a title, or, where the street numbers have been exhausted as in downtown New York, whatever title the ingenuity of the attorney can devise, from an initial to the name of a Persian town.

The maneuvers of experienced real estate brokers in these matters are the reverse of those of Foch on the Marne. The property is attacked from the principal front, and the lots facing on that street—say Wall Street—are first secured. Then the secondary lots are taken. And by the time the gentlemen in possession of the rear lots have begun to suspect that their properties have key value to a great scheme, they find themselves cut off from the sun and with only one possible profitable movement—backwards and out. In the case of the 40 Wall Street assemblage the lots involved were situated roughly:



Lot 1 belonged to the Iselin estate and had been leased for ninety-three years by G. L. Ohrstrom & Co., the originators of the scheme. The leasehold of lot 2 had previously been secured and without difficulty because it was only of great value as an adjunct to lot 1. Lot 3 belonged to Marshall Field of Field, Glore. Mr. Field was approached and was found to be amenable but preferred sale to lease, and the promoters were eventually obliged to buy his land. Next in order the fee of lot 4 was secured, since lot 5 was without real value except to the owners of 2 and 4. And lot 5 followed. At this point it was the intention of the promoters to build on these five lots, depending on the low building of the Assay Office for light. But it later became known that the Assay Office building was for sale, and since its purchase by anyone else would jeopardize the entire scheme the promoters were forced to buy it. Before this lot was added, The Manhattan Company, owners of 6, elected to join the promoters, and their land was added under leasehold, making the final building plot considerably larger, and certainly different in shape from the plot originally intended.

There are, of course, recalcitrant owners. One man in New York, recently dead, made a practice of holding-out and was enabled to leave over $1,000,000 worth of sterile property in various parts of the city. And there is the famous corner of the Macy lot which no Straus, so tradition has it, will ever again attempt to buy or lease. But hold-outs are not in general so spectacular as might be supposed, partly because real estate men are skillful, partly because plot owners can read the writing when it is large enough upon the wall, and partly because the increase of value in various plots brought about by their aggregation into one is so great that purchasers can afford to pay for the last piece. The usual estimate is that one lot is worth 10 per cent more than its three or four parts. Extremely optimistic realtors put the increase at 50 per cent on the basis of the enormous potential increase in the population of the area.

For his activities in behalf of the promoter, the real estate agent is paid a commission based upon the standard rates accepted by the Real Estate Board. These amount to 2.5 per cent on sales up to $100,000, 1.5 per cent from $100,000 to $1,000,000, 1.25 per cent to $2,000,000, and 1 per cent thereafter. The income of the great offices is not, however, limited to such commissions. Brown, Wheelock: Harris, Vought & Co., Inc., for example, divide their organization into a brokerage department and a management department, with appraising, coöperative sales, insurance, and other incidental departments added. Fifty per cent of their total business is in management—i.e., operation, renting, accounting, purchasing, etc. In this work their commissions are fixed by special agreement with the owner. Real estate transactions very quickly run into huge sums. The Noyes offices handle a yearly volume of rents, plots, and management of $400,000,000.

The sums involved in the purchase of lots suitable for the construction of great buildings are, of course, enormous. The Empire State Building site is said to have cost $16,000,000 or more than $8,000,000 an acre. The lot at the corner of Fifth Avenue and Forty-third Street sold a few years ago at $340 a square foot. The U. S. Assay Office site, purchased for the Forty Wall Street Corp., averaged $624 a square foot, and land at No. 1 Wall Street is reported to have cost $700 to $800 a square foot.

What the promoter buys in assembling his plots is practically no more than an option, though its legal incidents differ. Assuming four plots worth $500,000 each to the purchaser and assuming a purchase of the fee instead of the leasehold, the purchaser (or his dummy corporations or his real estate agents) will in each case buy the property upon a contract to take title in, say, sixty to ninety days, giving an opportunity for a title guaranty house to examine title, prove contiguity, and insure title. Two hundred thousand dollars will be paid in cash at time of signing the contract of sale, and a further cash sum on taking title. The balance will be covered by mortgages running for, perhaps, six months. If, during that period, the plots have not been assembled, the more advantageous course for the promoter to follow may perhaps be to forfeit his $200,000, and thereby the individual plots revert to their previous owners, but such a course is rare where the down payments are considerable. The dummy corporations are without funds, but the land remains as security.

Having assembled his land, the promoter has two alternatives. He can let it be known that he has secured the property (an impressionistic drawing in the press showing the ninety-eight story building he does not intend to erect will help) and see what luck he will have in a quick turnover, or he can organize for building. Most of the killings in skyscraper construction are made in the first way by men who don't build skyscrapers. Profits of $1,000,000 or $2,000,000 on a $500,000 cash investment or no investment at all are quite possible and so common that Colonel Starrett is led to remark that no one engaged in building "makes much more than a living except indirectly." But it does not necessarily follow, as it seems to follow in Colonel Starrett's mind, that the industry is peculiar. From the writing of books and the painting of pictures to the building of cities, in all the creative and constructive arts, it is true that the profits are made by persons who, themselves incapable of creating anything, are nevertheless smart enough to trade upon the labor or the potential labor of others. The fact that such persons exist is no more proof of the rottenness of the building industry than the presence of flies in a kitchen proves that the cooking is bad. On the contrary.

Nevertheless the comparatively small profit of actual building, as well as the large sums required, has had the effect of forcing most of the building companies into more or less close association with promoting and financing companies. Starrett Bros. & Eken, Inc. is a wholly owned subsidiary of The Starrett Corp., which also owns Starrett Investing Corp. George A. Fuller Company is owned by the United States Realty and Improvement Company, and Thompson-Starrett is closely associated with the General Realty & Utilities Corporation. Marc Eidlitz & Son, Inc. is said to be the one important building company which has limited itself to building for others.

If the promoter seriously intends to construct his building, his first step will probably be to organize a new corporation for that purpose, to which the titles of the various plots, subject to the mortgages, will be conveyed. This corporation in the simplest case may be formed by the promoter alone, and a builder employed by the corporation. Or, and preferably to the promoter, it may be formed by the promoter and the builder together and the common stock, or so much of the common stock as the exigencies of financing leave them, divided between the two.

Having come so far, the promoter and his brand new corporation are face to face with the ancient human need. How shall they get the money? Fortunately money is not so hard to get for those who want to turn it into something else as for those who merely want it. And if a man, or a corporation, has a plot of land with which to back up his intentions almost anything is possible. There are savings banks which will accept the mortgage title to the plot and loan its owner as much as 60 per cent of its appraised value, provided they do not thereby commit more than, say, 70 per cent of their portfolios to such loans. There are trust companies which will loan to 66 per cent of the valuation at 5 per cent, and insurance companies which will do the same thing at slightly higher rates—5.5 per cent instead of 5. But none of these lenders are altogether satisfactory to the promoter's purpose. For one thing they, and their ancestors before them, are accustomed to treat a loan as an accommodation by the lender, and they rarely display any great anxiety to do business. For another their appraisals are so conservative as materially to decrease their loans. Again their loans are usually not available until the building is completed—and what the promoter and his corporation want is the money with which to build it. There are, it is true, plenty of insurance companies which are equipped to make construction loans payable from time to time as the work progresses. And savings banks are still used. Of the estimated $20,000,000,000 of mortgages upon real estate now outstanding, about $4,000,000,000 are in banks reporting to the Comptroller of the Currency, and 31 per cent of these $4,000,000,000 are held by savings banks.

Nevertheless, it is not to the banks or the insurance people that our promoter is apt to go, but to one of the mortgage companies. The fundamental difference between the two types of lenders is that the mortgage companies arrange, at a charge for their services, for the investment of the public's funds in the enterprise, whereas the banks and insurance companies invest their own funds, or funds of which they are in effect trustees, and find their profit in the returns from the investment. Consequently the banks and insurance companies look upon a request for a loan as a request for a loan whereas the mortgage companies look upon it as an opportunity to do business.

This difference in attitude is reflected both in the cordiality of the mortgage houses toward promoters and builders and in the incidents of the first mortgage bonds issued for construction and building loans by such houses. The old traditional mortgage was a device for security and nothing more. The real estate mortgaged was usually worth twice the amount of the loan. Its value was independent of the mortgagor and his possible default. And it was appraised with an eye to the amount it would bring on foreclosure. In other words the mortgagee had no interest in the property covered by his mortgage except in so far as it served as a pledge. In the modern mortgage bond secured by a great metropolitan building the situation is very different. The mortgagor, and obligor on the bonds, is usually the very corporation expressly organized to own this particular building. Therefore the value of the mortgaged property is closely linked up with the financial health of the mortgagor, for the mortgagor will only default if the building, as a going concern, is a failure, and the value of the building as security for the loan is, conversely, not independent of the solvency of the mortgagor. Consequently, to the extent that the security for his investment and the interest on his investment are dependent on his debtor's business success, the bondholder is a participant in that business and that success as the old-fashioned mortgagee never was. In other words, mortgage bonds of this type have moved away from the old mortgage conception and toward the category of preferred stock.

The change in point of view appears in the practice of the bond houses. It is generally agreed to be good accounting practice to include in the value of the building for purposes of loan such items as the promoter's loss of interest on the land during the whole period

[*Continued on page 72*]

BURLINGAME
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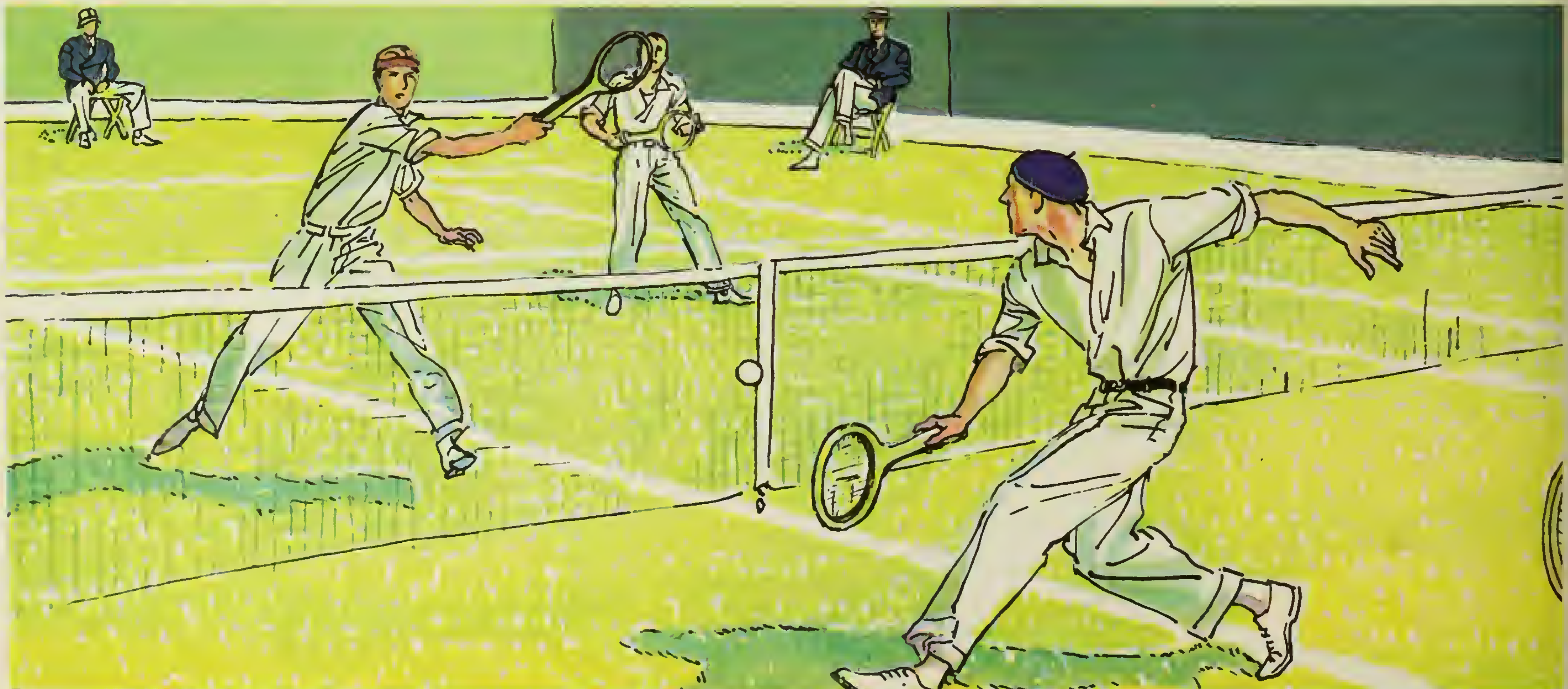
General Motors of Games: Spalding

But with less than 1 per cent of General Motors profits . . . A half century of unquestioned leadership, but the second million in profit coming hard.

MR. JULIAN W. CURTISS, who is president of A. G. Spalding & Bros., athletic outfitters, sat in his office at 105 Nassau Street, Manhattan, and discussed the lively ball. Mr. Curtiss is an erect, extremely square-shouldered gentleman who rowed on his varsity eight at Yale and has been in the sporting goods business for more than forty years. He has a rather florid complexion, piercing eyes beneath heavy eyebrows, and a trim military mustache.

On the topic of the lively ball, Mr. Curtiss is distinctly emphatic. A great many followers of baseball believe that the ball now in use is abnormally active and travels much more rapidly and to much more distant points than went its predecessors of a few years back. It is certainly true that there is now a great deal more hitting than there was ten or fifteen years ago. Pitcher Burleigh Grimes, for instance, who has been around for a long time, says that he used to figure on allowing two runs a game and winning and now figures on winning by allowing four runs. During the present season, Mr. Grimes has shown a regrettable tendency to allow four runs in an inning and not to win any games, but that is probably not because the ball is more lively but because Mr. Grimes is less. At any rate, the batters are hitting more home runs in a week than they used to hit in months—the Athletics and the Yankees made ten in one game this spring—and the ball used now is



pularly known as the “rabbit” ball, the erence being of course to bunny’s capacity rapid and sustained movement.

With the statement that hitting has in- eased, Mr. Curtiss has no quarrel. But with e argument that the owners of the major gue clubs (one such owner, Mr. Thomas S. ibe, of the Philadelphia Americans, present orld’s champions, being also a Spalding rector and head of the Spalding baseball ant) have altered the ball in order to pro- ote free-hitting games, Mr. Curtiss has a ry definite quarrel indeed. For Spalding akes the baseballs used in both leagues and s made them since the leagues came into istence, so that Mr. Curtiss eminently alifies as an expert on baseballs past and seballs present. And Mr. Curtiss says, flatly, equivocally, that the ball now used is the me as the ball used last year and the balls ed for many years back.

“This lively ball talk is nonsense,” says Mr. urtiss. “The ball is exactly the same as it as and don’t let anybody tell you differently. here are more home runs because there are o many stands built in the outfields and cause the hitters are all trying to put the ll out of the park. Also the spitball and her trick deliveries have been prohibited, d the umpires have been instructed to keep w balls always in play. It’s the pitching at’s most different. I could go in there my- lf and hit some of those pitchers they have day.” And Mr. Curtiss shakes his head in rrow at the thought of the unskillful mounds- en who get behind the batter and put a fast e down the groove and blame Spalding hen someone golfs it out of the field.

To the relatively disinterested observer who either hits nor pitches, the warmth of Mr. urtiss’ feeling concerning the lively ball illu- on is rather more interesting than the ball self. There is no doubt but that the general ublic likes hitting and lots of it, prefers base- all scores of 8-6 to scores of 1-0. Mr. George erman (Babe) Ruth earns $80,000 a year lmost entirely because people will pay that m and more for the privilege of watching im hit home runs. It would seem, therefore, at the club owners and Mr. Curtiss would ave been well within their rights had they deed altered the ball to multiply the homers. emembering, however, Mr. Curtiss’ flat enial of any such alteration and appreciat- g his extraordinarily intimate association ith baseball, it is not difficult to see why he irritated by continued references to the rabbit” ball. For Mr. Curtiss and Spalding re accustomed to having what they say ac- epted. For more than fifty years the Spald- ng company has been an outstanding factor n the development of American sport. It has een the pioneer American company in the anufacture of nearly every implement with which games today are played. There is be- ween Spalding and sport more than merely merchandising relationship, a relationship which, if profitable to Spalding, has also been eneficial to sport. And from a standpoint so nevitably and so legitimately episcopal, rreverences may be readily detected and deplored.

Mr. Curtiss to England

It was back in 1885 that Mr. Curtiss first came (as a salesman) to the Spalding company. Formed on February 3, 1876 (just one day after the formation of the National League), Spalding had begun as a partnership between Albert G. Spalding, famous old-time pitcher with the Chicago Nationals, and J. Walter Spalding, his brother. Each brother put in $400 to make the company’s $800 initial capitalization. It is difficult now to realize the small financial scale on which sports and the sporting business then operated. The entire season’s pay roll of that Chicago National League club for which Mr. Spalding so successfully threw his own baseballs was less than $25,000, and the entire first year sales of Spalding were less than $12,000. In 1878, however, the young company received a large addition to its capital when William T. Brown, banker and Spalding brother-in-law, joined the firm. With 1885 came the acquisition of A. J. Reach Co. (founded by another famed old ball-player), and in 1892 was acquired Wright & Ditson. George Wright was still another baseball old-timer, had also been a noted cricketer. He and his sons, Beals and Irving, whom tennis followers of some twenty years back well remember, are still Spalding men. So by 1892 Spalding had absorbed two outstanding competitors. Its field, however, was very narrow. There was a skate subsidiary (Peck & Snyder) and later came the bicycle craze, but on the whole the company’s production was not sufficiently diversified. It is likely, indeed, that the Reach and the Wright & Ditson mergers resulted from the sporting goods business’ inability to support more than one thriving manufacturer.

In 1892, however, college-trained Mr. Curtiss, interested in intercollegiate football, traveled to England to watch the making of footballs, and from his trip resulted the beginning of Spalding’s modern period. Mr. Curtiss did indeed observe footballs in the making, and to such good purpose that Spalding has now a tannery in Leeds where are made the covers used in the Spalding balls currently supplied for the U. S. football season. The most important moment in his journey, however, came when, in London, he noticed some gentlemen lugging with them an assortment of strange looking sticks. Upon asking what these implements might be, he was told that they were golf clubs, so, in a spirit of enterprise and chance-taking, he added to his baggage the sticks and balls of golf. When Mr. J. W. Spalding saw these odd objects in his shipping room, he decided that Mr. Curtiss had partaken too freely of British hospitality, but nevertheless Spalding was soon turning out the first made-in-America clubs and balls. Spalding also persuaded Harry Vardon, great English golfer, to tour the United States giving exhibitions of the new and extraordinary pastime. It should be noticed that Mr. Vardon played with a solid gutta-percha ball, heavy, stony, and with little loft or carry. The modern golf ball, with its center of tightly wound rubber thread, was developed

THE NEW GOLF BALL, STEEL CLUBS, WOOD RACKETS . . . OTHERWISE, STANDARDIZATION THE WORLD OVER

IN ADDITION to the lively ball controversy in baseball, golf players are agitated over a new ball, in this case undeniably and officially different from the old. The United States Golf Association has killed the golf ball now in use, is replacing it with a slightly larger ball which, while no doubt a somewhat better target, does not give the distance obtainable with the small sphere it replaces. The distance in the air is about the same on a quiet calm day, but the new ball has much less roll. All golf ball manufacturers have agreed to make only the new ball after January 1, 1931, and all official tournaments in this country will be played with it. The large size ball will cause trouble in international golf, since England and all countries other than the United States are continuing with the smaller ball.

This step away from international standardization is the more regrettable since England has recently accepted the steel-shaft golf club. Spalding believes that English legalization of the steel shaft will result in the general passing of the hickory shaft. The steel shaft in the past has had the disadvantage of transmitting too much impact vibration and thus tiring the user’s wrists, hands, and fingers. Some golfers are so sensitive to vibration that they can tell, by the shock difference, whether a hard or soft steel has been used in the club-face. Recently, however, Spalding has perfected a steel-shaft club with a rubber shock absorber between shaft and head, thus considers eliminated the only drawback to the steel shaft.

But though steel is gaining in golf, the steel tennis racket has not enjoyed the same popularity as ranking tennis players still prefer the ash frame strung with split lamb-gut. Incidentally, there is a European type tennis racket and an American type, just as there are the two types of tennis. The American wants the ultimate in speed, looks for a small-headed racket. The European, willing to sacrifice something in speed for greater accuracy, uses a racket with a larger head.

Except for the new golf ball, there have been no sweeping changes in either the rules or the implements of sport, a desirable international standardization having been generally attained. Tennis the world over, for example, is played with precisely the same ball. Nor have rules committees, during the past winter, done any vital tinkering with the laws of the games they supervise.

by Goodrich Rubber Co., but Spalding promptly bought the manufacturing rights and Spalding also introduced the "dimpled" surface on which today's ball so much depends for its distance. The game which Mr. Curtiss brought across the Atlantic was so radically bettered by Spalding innovations in balls and clubs that Spalding improvements, recrossing the ocean, greatly increased golf's popularity in even its British home.

Any attempt at tracing the development of American sport during the last forty years would be obviously impossible in the scope of less than a volume. Perhaps the simplest measure of its progress is found in the extent to which the heroes of sport have become also the heroes of the nation. The public of the old-time athlete was enthusiastic, but limited. The Coys and the Hinkeys, the Larneds and the Sears, the Vardons and the Rays, the Keelers and the Kellys were as excellent examples of athletic prowess as their descendants of the present, but for one member of the general public who followed their fortune there are a hundred worshipers of the idol of today. There were names in the old days; there are pet names today. With the exception of professional boxing, which has suffered a rush of money to the head and become thoroughly a "racket," there is not now a major sport which has not produced one or more exponents not only as well known as a President but perhaps considerably closer to the hearts of their fellow-men.

Tennis has the histrionic Tilden, probably greatest player of all time, scolding galleries and linesmen and tennis associations, equally spectacular in victory or defeat. In women's tennis it is "our Helen," "little poker face," with a side line of caricatures and a game which, with the passing of Suzanne Lenglen, is nearly without competition among her sex. Golf has Bobby Jones, attorney and part owner of the Atlanta baseball club, whose favorite club (Putter Calamity Jane) has joined him as a national figure. And pro-golf has Walter Hagen, who has made upwards of $50,000 a year, mostly in exhibitions, though he has also endorsed everything from underwear out, a great match player with a highly developed competitive instinct and a certain failing with regard to punctuality. In baseball it is, of course, Ruth the Bambino, home run hitter extraordinary, big of heart and waist and keen of eye. Once the Babe was very stubborn about the proper hour to go to bed, and once he is said to have driven an expensive motor car off a road and into a ditch, climbed out uninjured, said to the farmer who wished to tow him in, "Oh, keep the car," and walked off. But lately the Babe has become sober and serious, in his old athletic age of nearly forty, and knows that his legs cannot support his great body as they used to, so into the bank goes some portion of his large salary. Football has produced no one outstanding luminary since the passing of Harold (Red) Grange, who made ice famous by carrying it during the summer, then grieved many a football enthusiast by turning professional, although as a pro-player the Ghost has not been nearly so galloping or nearly as potent a box office

attraction. But football has never been more popular, and certainly there exists no marked indifference to such figures as Stanford's Warner or Notre Dame's Rockne or Yale's Booth. Given what must run into billions of dollars of free publicity, housed in bowls and stadiums to which one must revert to the Coliseum for comparison, never more universally followed, more substantially founded, American sport has come into that golden age which for Spalding represents also a promised land. According to distinctly unofficial estimates, admittedly expressed in extremely round numbers, there are today in this country 2,000,000 golfers, 2,000,000 baseball players, 1,500,000 tennis players, 3,750,000 basketball players, and 150,000 football players. And of the sporting equipment sold in this country Spalding merchandises, at the very least, a good 50 per cent.

Many are the reasons for Spalding leadership, obvious factors of course being its age, its size, and the physical extent of its operations. With fifteen plants, in Chicopee, Massachusetts; Springfield, Massachusetts; Chicago; Philadelphia; Brooklyn; Elkton, Maryland; Greensboro, Maryland; San Francisco; and in Canada, France, England, and Australia, and with ninety-one retail and wholesale stores, Spalding admits no competitor in the variety and extent of its products. The English make good sporting equipment; the French make good rackets but extremely bad balls; but in both England and in France it is likely that the more important golf and tennis tournaments are played more with Spalding than with balls of any other make. But while Spalding volume and Spalding internationalism account for many Spalding sales, it is only fair to credit the Spalding reputation with much of the Spalding success. In the days when the popular mind regarded tennis as a sport in much the same category as croquet and in the days when golf was cow-pasture pool and knickers provoked snickers, Spalding was building up an association with the governing bodies and leading spirits of both sports which golf men and tennis men can never forget. Today the pioneering bread of the nineties is coming back tenfold upon the waters.

Furthermore, Spalding men today are sportsmen just as were Spalding men in the days of '76. Ed Thorp, one of the best known of intercollegiate football referees, is also head of the Spalding institutional department, which deals with school and college sporting orders. Howard Cann, New York University basketball coach, proclaimed best basketball player of 1920, also Olympic shotputter, is a member of the Spalding sales force. Eddie Casey, Harvard back of the Haughton régime, brightest period of Harvard football history, manages the Spalding Boston store. Sam Hardy, captain of the Davis Cup team that brought the Davis Cup back from Australia, is in the Spalding tennis department. Thomas S. Shibe, owner of the Philadelphia American League Team, world's champions, has already been mentioned as Spalding baseball-maker. With its older members closely associated with the governors of sport, with its younger members

40
35
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THE LATE ALBERT G. SPALDING, COMPANY FOUNDER

themselves experts in their lines, it is not surprising that the Spalding name is known by caddy and pro, by ball boy and tournament committee chairmen, by mascot and league president.

And, finally, there is the very important element of manufacturing skill and quality standard. No simple matter is the making of sporting implements, nor is there any other class of merchandise in which the user finds an imperfection more unforgivable. And well does Spalding realize the necessity for making a golf ball exactly round, a tennis racket precisely balanced. Visit, for example, the Spalding Chicopee factory where are made golf balls and golf clubs, tennis balls and tennis rackets—items which, incidentally, lead the Spalding output in point of dollar sales. Here presides Milton B. Reach and his brother, W. G. Reach, quiet, easy-spoken, fatherly, each of whom can play eighteen hard holes in the low seventies and who are the inventors of the "matched club" idea since so widely patterned. At noon Mr. Reach and his department heads lunch at a round, white-enameled table, partake of the same excellent food served to the rank and file of office workers. They generally talk golf. Late in May there was a fire in the plant, a fire which, without doing serious damage, held in it potentialities of disaster because of its proximity to large quantities of gasoline used in rubber refining. On the day following the fire, Mr. Reach and his executives talked about fire-fighting, specifically fighting gasoline fires. On the next day, however, there was little talk of conflagration and explosion. The meeting dealt chiefly with the prospects of Glenna Collet's winning the British women's championship (she did not) and closed with Mr. Reach giving a demonstration of how a famous golf professional gets out of traps. Here perhaps is the ideal manufacturing personnel—a group of expert consumers themselves using the products of their plant.

Serious, too, are the engineering problems involved in the making of, for example, a tennis racket. The racket begins with a long, straight piece of well-seasoned ash (the ideal wood also for baseball bats). Into a machine goes the ash stick, is swiftly bent into the racket's shape, its curved portion forming the racket rim and its two ends the two sides of the racket handle. Next a third piece of ash is fastened between the sides already mentioned, and then (except in the open throat racket) a small bit added where rim meets handle. Then, because ash is a heavy wood and the tennis player insists upon lightness combined with strength, as much as possible of the ash handle is planed away and a lighter wood substituted in its place. Next the leather end-piece is added, and the racket is ready for stringing. The ideal string is made from lamb-gut (which is the same material that Albert Spalding plays on in his violin) though hog-gut is also used, and the Spalding laboratory force is busily working on a synthetic stringing material. The trick of racket-making is the combination of strength without overweight, plus imparting to what is really very much an assembled job a virtually monolithic solidity and balance. Spalding gets its ash from New England, also cures its own rubber and makes its own finish for golf balls. One of the best indications of Spalding standards of manufacture is the fact that Spalding "seconds" are widely marketed as such and sold at prices hardly lower than the "firsts" of many cheaper merchandising grades.

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J. WALTER SPALDING, CO-FOUNDER AND CHAIRMAN

Thus far, in what is presumably the story of a corporation, nothing has been remarked concerning that vital corporate item of profit and loss. Yet it is fair to say (with no implication of Spalding altruism) that contact with the Spalding firm does produce an impression of standard and reputation rather than an impression of production and price. Indeed, considering the very large estimates usually given for the national sports bill, Spalding sales (for 1929, $27,886,334) and Spalding net income ($2,050,447) appear surprisingly small. Taking the still conservative supposition that Spalding sales represent 50 per cent of the entire sport industry's income, it would appear that the public spends upon sports less than $55,000,000 yearly. On the other hand, however, it should be realized that what a man spends on sports (or rather on games, for such sports as hunting and boating are not strictly in the sporting goods picture) is much more than what he spends on the implements of sport. A man may have a day's golf bill of $20, of which not more than fifty cents is actually spent on actual implements. Furthermore, a large percentage of the statistical players-of-games belong to the extremely younger generation who play with implements that Spalding would hardly recognize as such. Golf balls are Spalding sales leaders, with golf clubs in second position. A profitable branch of Spalding trade, however, is its "institutional" business—the outfitting of schools and colleges with sporting goods and apparatus of every description. The average cost of first-class equipment for a college football player

[*Continued on page 100*]

CHARLES F. ROBBINS

JULIAN W. CURTISS

MILTON B. REACH

H. BOARDMAN SPALDING

Temple of the Dollars, the Pounds, the Marks, the Yen

Of the Rubles, the Pesetas, the Taels, the Kronen, the Drachmas, the Florins. A saloon-keeper went to sea; a middle-aged coal-dealer went adrift. Thereafter America was taught salesmanship by John Henry Patterson. And bigger sales by John H. Barringer, whose goal is "$100,000,000." "Bigger or Bust."

Photographs by Margaret Bourke-White

FUTURE GUARDIANS OF THE WORLD'S CASH: N. C. R. CASES BEFORE ASSEMBLAGE

IN VERY round figures there are 2,700,000 National Cash Registers in thirty-seven nations (only 750,000 in the United States), and to every register there is attached a bell. Assuming, as National Cash Register does assume, that the average merchant performs 150 transactions on his machine every day, there occur across five continents and around the seven seas in the wake of the sun, 400,000,000 of the familiar clangs. That is to say, the cash concert of the nations proceeds at the rate of at least 16,000,000 percussions an hour; 4,400 a second. A motion picture reeling off but twenty-four "stills" a second produces the illusion of absolute continuity. Wherefore it may be said that in its diurnal orbit the N. C. R. bell never stops ringing at all.

The bells are tuned in Dayton, a city which N. C. R. has made the neatest and nattiest in Ohio, Mother of Presidents. There "The Cash" was born, and there it grew out of its own profits, until now it is the most international concern of its size in the United States. For, believe it or not, 55 per cent of N. C. R.'s gross business of more than $50,000,000 a year is now foreign business. Its boxes go out to the very ends of the earth; from every great city, from almost every currency in the world it draws its pay.

Yet no business could be more American. It produced John Henry Patterson, an exclusively American character; and John Henry Patterson invented, to a degree unmatched by any other man, American Salesmanship. In 1884 nobody wanted cash registers. They were known as "thief catchers" because they made it risky for clerks to cheat, and clerks regarded them as insults and would let no N. C. R. salesman into the store to show a model to the boss. But Patterson believed in selling through the eye; he did not trust the ear. He made a model with only three keys, had it carried in a case about the size of a physician's bag. When this was discovered, any salesman with a little black case was kept from the proprietor by physical force, so that all salesmen on the road turned against N. C. R., which is the source of many a fabulous story. This was particularly true in saloons, whose hard-boiled bartenders had been rifling cash drawers, whose proprietors were most open-minded toward the "thief catchers." It became customary for a man with a little black case to announce, as he set his boot on the brass rail, that he was not selling registers. Patterson was forced to abandon models. He got to the circular.

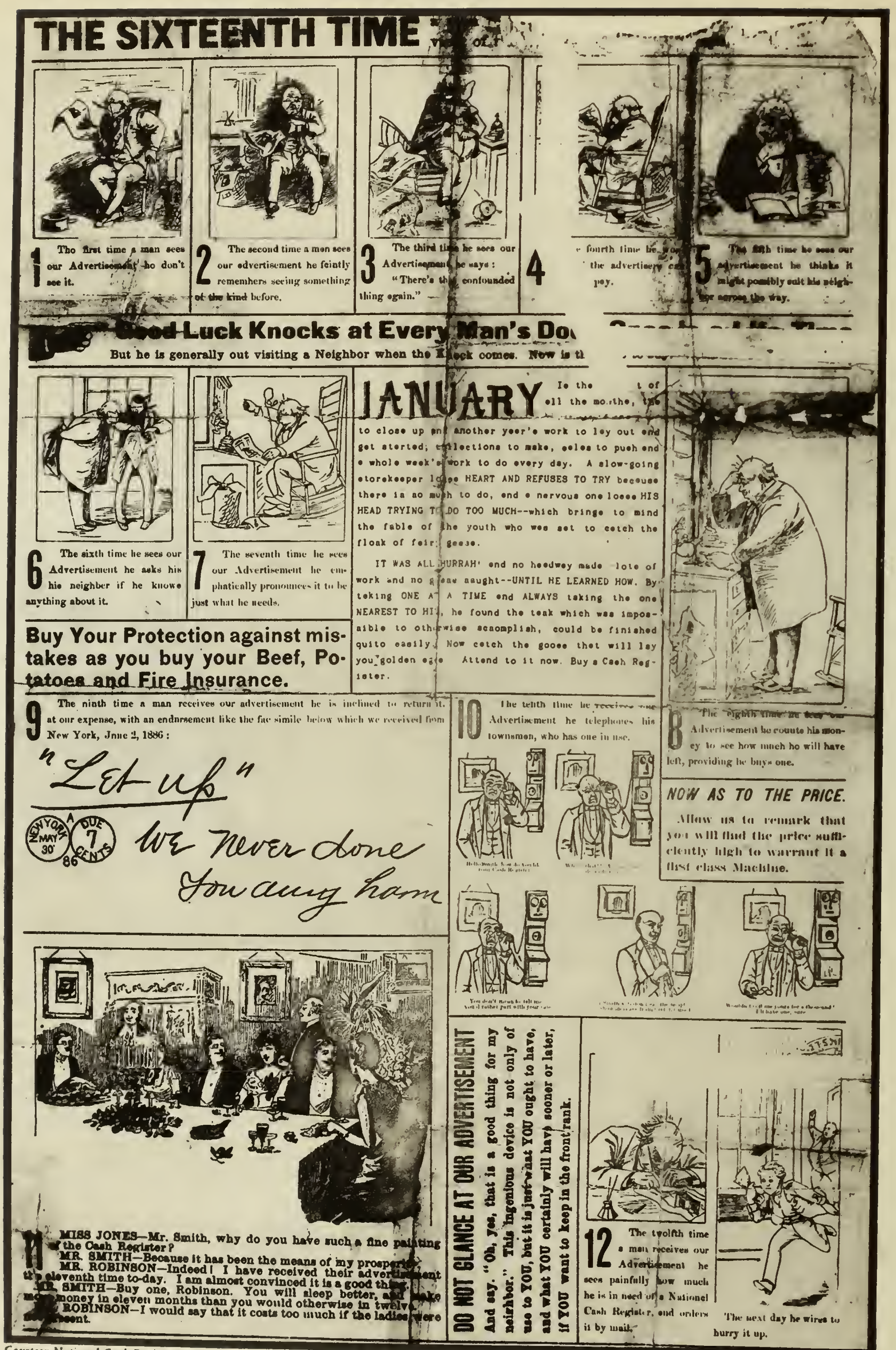
Circulars are now such common nuisances that millions daily are thrown into wastebaskets unopened, but in 1884 nothing could have startled prospective purchasers more severely. Not even Curtis Publishing Company had used the device quite so blatantly as Patterson now proposed. From each of ten salesmen this unruly manufacturer obtained a list of 500 prospects, which gave him a total list of 5,000. Into his meager factory he hauled a carpenter and six undergraduates from a commercial college. While the carpenter built eighteen bins, the boys addressed eighteen envelopes to each of the 5,000 prospects. Patterson himself wrote advertising matter about his cash registers—and such advertising matter. He did not believe in mere announcement, which was the style of the day in conservative circles. He wanted to convince. He was certain that if he could make people think about it he could place one register with every 400 of population. (N. C. R. has now placed one register in the United States with about 162 of population.) Every day for eighteen days a circular went to each prospect. It was unpardonable, peace-disturbing. One merchant returned his ninth letter with the notation: "Let up. We never done you any harm." (See cut on page 68.) The relentless Patterson sent him nine more. Worse, he borrowed the "testimonial" from the disreputable patent medicine business. Saloons and cheap restaurants were the most enthusiastic customers, and such is the base upon which The Cash is built.

CRATES THAT CAN BE DROPPED FROM SHOULDERS TO CEMENT FLOORS

Homeric breed

By 1889 Patterson was spending $4,000 a month ($5.24 per register) in circularizing. Since he never really had any capital, expanding entirely on profits from sales, people thought him crazy. But his circulars did not replace salesmen. By no means. Though not a good salesman himself, Patterson became the creator of the most high-powered breed of salesmen on the American road. The early salesmen are now Homeric figures—

BURLING
PUBLI
LIB.



THE SIXTEENTH TIME

1 The first time a man sees our Advertisement he don't see it.

2 The second time a man sees our advertisement he faintly remembers seeing something of the kind before.

3 The third time he sees our Advertisement he says: "There's that confounded thing again."

4 [illegible] fourth time he [illegible] the advertiser [illegible] pay.

5 The fifth time he sees our advertisement he thinks it might possibly suit his neighbor across the way.

Good Luck Knocks at Every Man's Do

But he is generally out visiting a Neighbor when the Knock comes. Now is th

JANUARY Is the [illegible] of all the months, the time to close up and another year's work to lay out and get started; collections to make, sales to push and a whole week's work to do every day. A slow-going storekeeper loses HEART AND REFUSES TO TRY because there is so much to do, and a nervous one loses HIS HEAD TRYING TO DO TOO MUCH--which brings to mind the fable of the youth who was set to catch the flock of fairy geese.

IT WAS ALL HURRAH' and no headway made lots of work and no geese caught--UNTIL HE LEARNED HOW. By taking ONE AT A TIME and ALWAYS taking the one NEAREST TO HIM, he found the task which was impossible to otherwise accomplish, could be finished quite easily. Now catch the goose that will lay your golden egg. Attend to it now. Buy a Cash Register.

6 The sixth time he sees our Advertisement he asks his neighbor if he knows anything about it.

7 The seventh time he sees our Advertisement he emphatically pronounces it to be just what he needs.

Buy Your Protection against mistakes as you buy your Beef, Potatoes and Fire Insurance.

8 The eighth time he sees our Advertisement he counts his money to see how much he will have left, providing he buys one.

NOW AS TO THE PRICE.

Allow us to remark that you will find the price sufficiently high to warrant it a first class Machine.

9 The ninth time a man receives our advertisement he is inclined to return it at our expense, with an endorsement like the fac simile below which we received from New York, June 2, 1886:

"Let up"

NEW YORK MAY 30 86 A DUE 7 CENTS

We Never done
You any harm

10 The tenth time he receives our Advertisement he telephones his townsman, who has one in use.

11 MISS JONES—Mr. Smith, why do you have such a fine painting of the Cash Register?

MR. SMITH—Because it has been the means of my prosperity.

MR. ROBINSON—Indeed! I have received their advertisement the eleventh time to-day. I am almost convinced it is a good thing.

MR. SMITH—Buy one, Robinson. You will sleep better, and make more money in eleven months than you would otherwise in twelve.

MR. ROBINSON—I would say that it costs too much if the ladies were not present.

DO NOT GLANCE AT OUR ADVERTISEMENT

And say. "Oh, yes, that is a good thing for my neighbor." This ingenious device is not only of use to YOU, but it is just what YOU ought to have, and what YOU certainly will have sooner or later, if YOU want to keep in the front rank.

12 The twelfth time a man receives our Advertisement he sees painfully how much he is in need of a National Cash Register, and orders it by mail.

The next day he wires to hurry it up.

Courtesy National Cash Register Co.

AMERICAN HIGH-PRESSURE SALES, NOW WORLD FAMED, HAD FOR PIONEER JOHN HENRY PATTERSON, WHO LAUNCHED EIGHTEEN SUCCESSIVE CIRCULARS UPON 5,000 CASH REGISTER PROSPECTS IN 1884. THIS IS PATTERSON'S IDEA OF THEIR EFFECT

John Watson; Fred High; U. E. Blood of Chicago; John Crawford of New York; the Cranes (Jim and Joe) of Dayton, who had for office boy Mr. Hugh Chalmers; C. H. Lord, of Boston; and Robert Callahan of Washington. Most picturesque of all, a very Hector, was A. C. McMahon, known as the world's premier salesman, who put cash registers into Marshall Field and into every concession at the Chicago Fair. Worthy descendants of these heroes in more recent times are Richard Grant, the man who put Chevrolet sales ahead of Ford in 1928 and is now salesman-in-chief of General Motors; and less directly connected with sales, Alvan T. Macauley, president of Packard Motor; Hugh Chalmers, director of Chrysler Corp.; Charles F. Kettering, vice president of General Motors in charge of research.

Patterson himself was certainly a man touched with Napoleonism. He startled Dayton, the Miami Valley, the whole Union with methods so radical as to seem unethical. He upset all existing practice with his commission basis (then used for cheap, risky goods); his guaranteed territories; his fat, tempting commissions, with the sky the limit on a salesman's earnings; his quota system, by which each salesman was to sell his quota, not once only, but once a year—an absolutely unheard-of idea. Since then, though there was talk of a cash register saturation point in 1890, cash register sales have mounted steadily.

In 1893, preparing for the panic, Patterson instituted the startling practice of "conventions." J. H. had an eye for panics and could (with the help of a volume called *Benner's Prophecies of Future Ups and Down in Prices*) predict them to a year, just as, in 1913, he predicted the Dayton flood one full day before the town was drowned. His habit was to meet every panic head-on, double his selling pressure; and during that memorable year of 1893 he visited fifty towns in fifty-one days, holding conventions of salesmen in each. Now, every spring and every fall, the general manager, the treasurer, the sales manager, sometimes President Frederic B. Patterson, son of J. H. Patterson, speak all over the country, demonstrate new models, announce policies. They speak to some 1,500 salesmen many of whom were once neophytes at the home office where they were trained. Those salesmen who turn in more than $30,000 business a year are members of the famous 100-point club which next year goes to Havana for fun at the company's expense.

By means of this sales system N. C. R. has girded the planet with its bells; and although it employs native salesmen in each country, native agents, native managers, assisted by a few American supervisors, still the sales system in Constantinople or in Rio bears the stamp of that developed by John H. Patterson. Besides its foreign agencies flung far and wide through the minor nations, N. C. R. has eleven sales subsidiaries—Canada, Great Britain, South Africa, Australia, France, Switzerland, Spain, Italy, Germany, Austria, Czechoslovakia, each with the name of N. C. R. translated. Thus N. C. R. became the principal temple of all the gods—the Dollars, the Pounds, the Marks, the Francs, the Rubles, the Pesetas, the Taels, the Yen.

Daytonian accuracy

That the entire world submits to the judgment of Dayton in its civilized retail exchange of money for goods is a credit to Salesmanship, but also to Accuracy. An inaccurate cash register would be of use only in Alice's Wonderland. Elsewhere, clerks will be accused; a whole store system, a whole bank may be disrupted if one of 600 or 700 wheels is a fraction off. This Daytonian accuracy is no trifle. Whereas a Wright Whirlwind nine cylinder engine has 3,038 parts, a National Cash Register has between 8,000 and 14,000; for all the various types of machines, there are some 50,000 parts. Old-timers at The Cash—and there are many of them—agree that the tool room is the secret of accuracy. N. C. R.'s investment in tools is about $8,000,000. In 1929 the company spent $1,769,230 on tools, plus a tool maintenance charge of $371,218.

The Accuracy fetish at N. C. R. dates from 1894. In that year $50,000 worth of registers shipped to England (largest foreign order to date) were returned because they added faultily. Amid speeches and pyramids Patterson had all of the returned English

Courtesy National Cash Register Co.

CASH REGISTERS BEING LOADED ON THE LATE *S. S. VESTRIS* FOR SOUTH AMERICA WHERE TRADE ROUTES ARE MOST PERILOUS. WITH THESE SCIENTIFIC CRATES N.C.R. PENETRATES EVEN TO BOGATA, COLOMBIA registers piled in a corner of the factory, put glass around them, kept them on exhibition for years. Tradition has it that he dramatically destroyed many of them, and this is reasonable to suppose, because Patterson is known to have used an ax on faulty registers in sight of his employees. Once he threw a crated register down the elevator shaft to see if the crating were any good. This habit of dropping registers around is very prevalent at Dayton. In the shipping department there is a shelf thirty-two inches high, and every now and then a register embodying a new invention is shoved off it in its crate. There are also long-distance tests—machines are jolted 4,000 or 5,000 hours, not gently; or they are punched several million times, the equivalent of 100 years of use, and then torn down for inspection.

Accurate in Dayton, the machine must also be accurate in London, Buenos Aires, Calcutta. It must cross the Red Sea where ships' hulls are too hot for hand to touch. It must get to Bogotá, which, high up in the mountains of Colombia, is at the end of the most hazardous of all the trade routes of the world, over all of which Cash's crate is famed. Though the crate is simple enough to look at, it is the result of such study of the packing art that N. C. R.'s marine insurance losses, and consequently premiums, are enviously low.

Napoleon of Ohio

A business which is so nearly a mondial monopoly, a business so intimately linked with money, might presuppose a financier. Actually John H. Patterson, the Napoleon of Ohio, was no kind of financier. He died in a drawing-room of the one o'clock train from Philadelphia to Atlantic City on May 7, 1922, and for his fortune he was indebted almost not at all to Capital. Mr. Patterson was originally a coal-dealer in Dayton, an inglorious town in those days. On the side he ran a general store at near-by Coalton, Ohio. He discovered that he was running a loss of $6,000 a year instead of making the profit of $12,000 which the figures said belonged to him. One day he observed that certain miners were waiting to buy from certain clerks and would buy from no others. Thereupon, he seized a miner's shopping basket and found that the man had been charged with only half of the goods received. He fired his whole force of four, and he sat down to brood. Now he discovered that cash is the root of business, without which the figures, though balanced, are mere dreams. He must organize his cash drawer, safeguard it, systematize it. He heard about a crazy contraption being made in Dayton which publicly registered sales. It was expensive ($50 a machine). He telegraphed for two. He always did things that way.

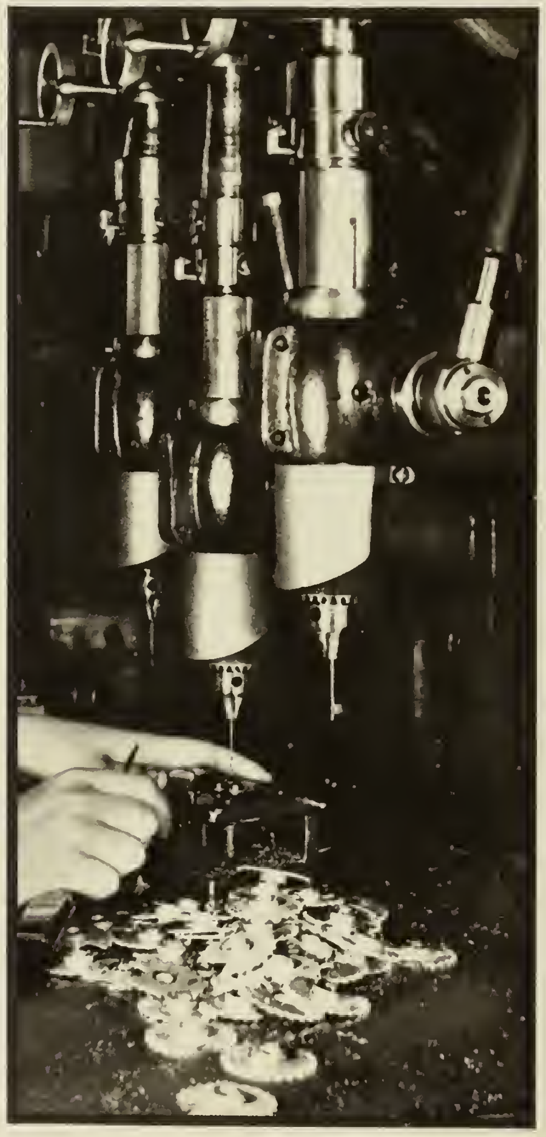
It took nerve to telegraph for two cash registers in 1882. There were only about a dozen in the world, and they were regarded by the good citizens of Dayton as so many jokes. The idea of such a machine had been suggested to a Dayton saloon-keeper named James Ritty, who was taking a vacation to Europe in 1879 and was impressed by the indicator in the engine room of the ship which tallied the revolutions of the propeller.

Having installed the registers—one in his retail store, one in his coal business—having stopped small leaks, John Henry Patterson failed to see his opportunity—which was perhaps the most astonishing fact in his astonishing career. He sold his share of the coal business to his brother Stephen and went West to buy, of all things, a ranch. On the porch of the famous Antlers Hotel in Colorado Springs, he and his brother Frank fell into conversation with a New England merchant who said he had been able to leave his store in the hands of clerks because it was protected by a cash register. Had they heard of the cash register? They had. That night the Brothers Patterson conferred. With typical precipitancy John hauled his brother back to Dayton. They arrived at night and went directly to George Phillips, who owned the controlling interest in Saloon-keeper Ritty's patents. They bought control for $6,500 and then went around to the club to announce their entrance into the manufacturing business. They were the joke of the evening—Phillips had been trying to unload his stock all over town. Worried, Patterson returned to Phillips the next day and offered him $2,000 if he would rescind the contract to buy. Phillips said he would not take the stock back as a present.

Sunk, middle-aged

Here was Dayton's future international figure sunk into an insolvent company with almost all his capital, and already forty-one. He had served the 100 days in the Civil War, graduated from Dartmouth at twenty-three,

SPRINGS TESTED TO 1/200 OF AN OUNCE



WHEELS THAT CAN TURN ¢'S INTO $'S

ACCURACY—ONE OF SEVENTEEN INSPECTIONS

Courtesy National Cash Register Co.

TO JOHN HENRY PATTERSON AND HIS HORSE *SPINNER*, DAYTON HAS ERECTED A MONUMENT

and, returning to Dayton, had found himself too old to start in any regular line of business. He had been toll-collector on the canal; he had sold coal; but now he was adrift and well into his middle-age. There was only one possible course of action. He had to sell these things in a hurry to get out of the hole.

Though designed to protect the cash drawer, the machine that Patterson had bought was separate from the drawer; its function was merely the moral one of recording the sale, and the record of each successive sale was lost. Patterson's first step was to incorporate the drawer into the register, so that it could not be opened without pressing a key. Next he installed the detail adder, which told how many times a key had been pressed; then a detail adder which indicated the total for each key in dollars and cents; then a machine which added all these keys together into a daily total of dollars and cents. This register cost from $300 to $350, and being built to serve the saloons, had an unchangeable grand total locked under its metal lid—positive indicator of theft. Thus far it was an automatic policeman. And with that Patterson embarked upon his utterly astounding career of sales.

So much for the Homeric days; but in 1925, three years after Patterson's death, enter a violent contrast. In that year The Cash was sold to the public by one of the most outstanding financial arrangements of the Coolidge era. The deal was handled by Clarence Dillon soon after his $180,000,000 Dodge Motor deal. It is worth noting for certain peculiarities of its own and because it is characteristic of recent American history. Patterson's business was divided into 1,500,000 shares, valued at $50 a share, giving N. C. R. a valuation of $75,000,000. More than two-thirds of the business was offered to the public—1,100,000 "A" shares at $50 each, with a minimum preference as to dividends of $3.00 a share over the remaining 400,000 shares which were kept by Patterson's family, executives, and employees. These 400,000 shares were called "B shares" and controlled the company as long as things went well; and of them, Frederick B. Patterson, J. H.'s only son, held a majority that gave him control.

The chief peculiarity of this transaction had to do with the employees of the company. Patterson was a tyrant and one of the most benevolent tyrants that ever lived. He gave, as we have noted, large commissions to his salesmen, and he gave generous "cuts" in the profits to everyone concerned. Thus, in 1923, the year after Patterdon's death, his employees got nearly half the profits—$2,850,000 out of $6,600,000, a remarkable incident in industrial history. This situation presented Clarence Dillon with a tough banking problem, for there were two radically different ways of looking at the net profits. So the circular offering N. C. R. stock gave *two* sets of profits for the preceding years. In one column were the total net profits; in another were the profits *after* deducting the employee's shares as follows:

	After deducting employees' profit-sharing participations.	*Before deducting employees' profit-sharing participations.*
1919	$4,640,414.00	$6,199,613.00
1920	3,663,712.00	5,789,600.00
1921	2,580,872.00	3,556,348.00
1922	3,181,421.00	4,974,801.00
1923	3,689,571.00	6,539,889.00
1924	5,063,547.00	6,534,822.00
1925*	5,942,304.00	7,807,596.00
1925—	6,070,821.00	7,915,000.00

** As it appeared in circular due to underestimates — As finally reported*

And it was arranged that in lieu of their customary share of the profits the employees should receive 10 per cent of the total stock, that is, 150,000 of the 1,500,000 shares. This done, the bankers capitalized the company on the basis of the total net profits, or at about 10 times earnings ($75,000,000 on the basis of $7,800,000 estimated current net profit). As compared with the millions which employees previously received, they have received only $450,000 per annum in 1927 and 1928, and $600,000 in 1929.

While no business can be understood except in terms of its past, no business can be measured except in terms of its future. No just analysis can be made of The Cash without an understanding of two men: John

[*Continued on page 110*]

The Five-Fingered Cabala

John Henry Patterson believed in the eye, and installed in the factory hundreds of easels, supporting great pads of coarse paper three feet long by two wide. As if at school the problems and conclusions of each conference were recorded on these pads, and today two or three executives never gather together without a pad. J. H.'s favorite symbol was a pyramid set on a columnar base—it represented his idea of factory organization, and by dividing it into sections he could show how component parts of N. C. R. ought to support each other. The factory still builds pyramids. Patterson divided almost every idea into five principle parts, a habit sprung from counting off points on his fingers. This he developed almost to a cabala, and the Cash still bows to the number five. Here is an N. C. R. pyramid analyzing one of Mr. Patterson's favorite subjects:

5
FOOD TYPES
NECESSARY FOR LIFE

1 PROTEINS	2 FATS	3 CARBOHYDRATES	4 MINERAL SALTS	5 WATER
Make and repair the body. Beans, meat, cheese, peas, oatmeal, eggs, nuts, etc. Very important food element. Necessary in small amount only. No storage place in body. Excess digested, but thrown out unused. Waste products are poisonous. Excess the most common dietary error. Most expensive foods. Avoid excess.	Produce heat. Olive oil, butter, nuts, fat meat, cream, cheese, etc. Excess delays stomach digestion. Little required in summer. Reserve storehouse provided in body. High food value. Laxative. Fried foods difficult to digest. Olive oil, 100 per cent food.	Produce heat and energy. Cereals, Vegetables, bread, macaroni, fruits, etc. Most abundant food element. All starchy foods and sugars. Starchy foods require thorough cooking. Fruit sugars require little or no digestion. May be eaten more freely. Increase the fat of the body. Generally laxative. Excess stored in liver and muscles.	Build and repair bones, nerves, and muscles. Greens, lettuce, cereals, vegetables, fruits, etc. One twenty-fifth of body weight. Small but important part of food. Spinach and tomatoes rich in iron. Lost in boiling. Saved in baking.	Aids indigestion. Dissolves waste products of food. "Flushes" poisons from body. At least 6 or 8 glasses daily. Cool but not cold. More in summer. Appearance often deceptive. "Old oaken bucket" often a danger. When in doubt boil it. Moderate amount with meals.

Skyscrapers: Pyramids in Steel

[Continued from page 61]

of construction, his loss of interest on the building during half that period, and his taxes on the land during construction. The theory is that anyone else replacing this building would be obliged to pay the same charges. But the old mortgagees of a generation ago would reply that the value of the building for purposes of loan is its value in case of the mortgagor's default and a consequent foreclosure sale and that no one will buy a building, which has proved unable to pay its bond interest, on a replacement basis.

Again it is not unusual for the mortgage houses to loan up to 75 or 80 per cent of the cost to a particular borrower (provided this percentage coincides with 65 to 70 per cent of a fair value). To which the old-fashioned mortgagee would simply not reply at all . . .

And finally the principal activity of the houses of issue is directed not to the establishment of a frozen, time-proof, everlasting security for the loan (though the best houses are conscientious to the last degree) but to the creation of a sound living investment. They are much more concerned to see to it that the question of foreclosure should never arise than to insure that, if it does, no one shall be hurt (an impossible goal in any case) and more interested in earning power than in brick and mortar value. The good houses, moreover, intend to stand by their issues. The old advertising slogan of S. W. Straus & Co. (forty-nine years without loss to an investor) did not mean that Straus had had no bad issues but that it had made its bad issues good. And the nationwide percentage of loss on such investments is actually ridiculously low—as low in some years as 3/100,000 of 1 per cent.

The procedure of S. W. Straus & Co. in passing upon an application for a mortgage loan may be taken as typical of the best practice. A committee of real estate, financial, and economic experts first considers the question whether this building in this location in the present rental condition of this particular city is capable of paying an adequate return on the investment. The elements of this problem are extremely complicated and involve matters to which we shall return later in this series. If the committee's finding is favorable, the plans for the building go to the engineering department, which considers the proposed structure from the point of view of its soundness and efficiency. The engineering department may, and frequently does, suggest changes. In the great apartment house at 277 Park Avenue the ten interior courts of the architect's plan were changed to one large court with most satisfactory results. When the engineering department has finished, the costs of the building are worked out. The promoter's own costs are set down in one column and in a parallel column the revised costs based upon Straus' experience of similar buildings and land purchases. The promoter may have gotten his land at a bargain or he may have swelled his building estimates to increase the loan, and the Straus column, which is designed to show sound or prudent investment cost, may therefore differ from his in either direction. The value of the project is then further checked by capitalizing the anticipated income from the building. If this figure does not accord with the Straus column, the loan is suspect. It is usual in computations of this kind to figure in returns per cubic foot. The return per cubic foot must exceed the required return to pay interest, operating expenses, upkeep, amortization, etc. by an amount sufficient to make the investment really profitable.

If the loan is made, a credit is established with the trustee under the mortgage (usually the Straus bank), and payments are made only against work done in accordance with specifications as assured by Straus' field engineers. The proceeds of the sale of bonds are segregated in the hands of the trustee. And a bond for completion is taken with a surety company or a responsible individual. The undertaking of such a bond is, preferably, that the surety will complete the building planned if the promoter fails, and the fee is usually 1.5 per cent of the cost of the building. No. 1 Fifth Avenue was built, in this way, by the surety companies.

With these safeguards it is apparent that the situation found to exist at the time of the bankruptcy of the G. L. Miller Company, a

40 WALL STREET CORP.

TENTATIVE ESTIMATE OF EARNINGS

	Year ending May 1, 1932	
	75 per cent rented	*90 per cent rented*
Operating revenue (*rent, electricity, and concessions*)	$3,900,000	$4,680,000
Operating expense (*ground rent, mortgage, interest, real estate taxes, management, insurance, operation, etc.*)	3,015,000	3,065,000
Operating profit (*before depreciation and amortization*)	885,000	1,615,000
Depreciation and amortization		
Depreciation (*2 per cent of $14,650,000*)	293,000	293,000
*Amortization of bond discount (*over fifteen and twenty-nine years*)	108,000	108,000
*Amortization of brokers' commissions (*over six years*)	60,000	72,000
*Amortization of tenant changes assumed (*over six years*)	112,000	135,000
Total depreciation and amortization	573,000	608,000
Income before federal and state taxes, etc.	312,000	1,007,000
State taxes (*no federal taxes first and second years—a/c 1929 loss*)	5,000	5,000
Income before preferred dividends	307,000	1,002,000
Preferred dividends: (*7 per cent of $3,000,000—first four months; 7 per cent of $4,000,000—balance of time*)	280,000	280,000
Net income to 40 Wall Street Corp. common	27,000	722,000
Amortization of first mortgage	191,000	191,000

**Other deferred expense items are included in building cost and in the depreciation at the rate of 2 per cent a year*

ITEMS OF COST OF THE BUILDING

Land		$ 4,750,000
Building		12,420,000
Builder's fee		800,000
Architects and engineers		515,000
Commissions on leases		475,000
Interest during construction:		
On first mortgage	$211,000	
On second mortgage	300,000	
Advances	250,000	
Preferred stock	160,000	
Mortgages assumed	29,000	
	$ 950,000	950,000
Taxes		175,000
Discount on financing		
First mortgage at 10 per cent	$1,250,000	
Second mortgage at 15 per cent	975,000	
	$2,225,000	2,225,000
Mortgage and stock tax, legal printing		300,000
Tenant changes		900,000
Cancellation of leases, purchase contract		315,000
Contingencies		175,000
		$24,000,000

southern house of issue, is extremely unlikely to repeat itself. The Miller Company had neglected bonds for completion in many cases and had not segregated proceeds, and the holders of some of its bonds were remitted to their rights against a cellar hole and a pile of rocks.

The cost of financing of this nature may amount to 10 per cent of the total investment. The cost of the mortgages on The Manhattan Company Building at 40 Wall Street was $2,225,000 on a total investment of $24,000,000. Financing in this case was handled by a first mortgage bond issue of $12,500,000 sold by G. L. Ohrstrom & Company. Ohrstrom and the Starrett brothers then formed the Starrett Investing Corporation, subsidiary of The Starrett Corp. which owns all the Starrett interests, and with money provided by the sale of its stock they were able to float a second mortgage issue of $6,500,000 and a preferred stock issue of $4,000,000. The bonds are to be amortized in twenty-eight years and net earnings thereafter will go to the Starrett Investing Corporation and an associated syndicate, owners of the common stock.

The junior financing in the case of The Manhattan Company Building was not necessarily typical. In the Empire State Building the funds required over and above the first mortgage of $27,500,000 to the Metropolitan Life Insurance Company were provided by the syndicate of owners. In other cases, as in the News Building and Chrysler Building, in New York, these funds were altogether supplied by the owner corporation or the promoter. But even in the case of skyscrapers owned by great companies or by extremely rich individuals it may be good policy to raise part of the equity money by a sale of preferred stock paying 6 per cent and to be retired out of earnings in, say, ten years, leaving the profits of the building to revert to the owner and holder of the common stock after that time. And there are numerous financing schemes, as that of the Fred F. French companies, which involve no investment by the promoters. The French Plan involves a first mortgage for about 50 per cent of the cost of land and building, an issue of preferred stock for the balance required, and a two for one issue of

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Skyscraper Financiers

Keystone

A. E. Lefcourt

MR. LEFCOURT entered the building business as a garment manufacturer. He was a Jewish boy from the east side who had become a clothing dealer by way of a bootblack stand and a department store. This was in the days of the east side sweatshops. The garment workers were accustomed to parade on lower Fifth Avenue during the lunch hour in such swarms that the Fifth Avenue shops suffered, and the shop-owners howled. Everyone admitted the evil but, lacking a Cossack regiment, there seemed to be nothing to do about it. Mr. Lefcourt recognized the evil and did something. He moved the garment trades west of Broadway and in so doing he ended the sweatshop, for the new lofts he built were well lighted and well ventilated and roomy. It was not an easy thing to do. The banks were skeptical, the employers saw no good reason to move, and the only tenant he had when he started his first building was himself.

In 1923 Mr. Lefcourt withdrew from the garment industry and devoted himself to building. He is now fifty-three. His real estate holdings amount to about $25,000,000, he has built over about 125 acres of land, and his buildings if placed end to end . . .

Mr. Lefcourt's recreation is swimming. He is a member of the Polar Bears, an organization devoted to bathing in ice water.

Wide World

Irwin S. Chanin

MR. CHANIN'S career is a monument to credit. He is a Russian Jew of Brooklyn birth, Ukrainian childhood, and New York success. In 1919, after a War experience in which he worked in poison gas laboratories near Cleveland, he set out to become a builder. He had $200, the girl he was engaged to had $300, and the houses he intended to build were to cost, including the land, $10,000 apiece. Friends of his father loaned him $500, and the local banker of Bensonhurst, for some good reason, loaned him the $19,000 balance. Within five years he was approaching a Brooklyn title company for financing on an $850,000 plot in that city; eight months later he had started and already sold two buildings in Brooklyn and was on his way across the river, and at the present time, in his thirty-eighth year, he has built about 150 buildings in the two cities (including the Roxy Theatre, the Chanin Building, the Hotel Lincoln, the Biltmore Theatre, and the Fur Center Building) and is said to own, with his brother Henry, real estate holdings worth $100,000,000. He is interested in theatres. As a boy he used to sit in the galleries and had to walk in by side entrances. He disliked that, and in his theatres everybody goes in through the same doors. He has discovered that "money is the easiest thing in the world to get. You just have to have ideas and it will come to you—why, it will pour in." Mr. Chanin does not mean that he takes money lightly: he is famous for his bargain-driving. But that money is the easiest thing in the world to get. You just have to have ideas.

George Lewis Ohrstrom

IT USED to annoy Robert Maynard Hutchins of Yale and now president of the University of Chicago to be called "brilliant and young." If such a disposition is common among young men to whom these two adjectives are applied, it may safely be assumed that George Lewis Ohrstrom has frequently been annoyed. The adjectives pursued him while he was second lieutenant in the U. S. Air Service, attached to the Fifth Army Corps of the Second Army, and when he achieved the distinction of bringing down the last enemy plane to fall during the War. He was still hearing them and trying not to when, in 1919, he returned to the University of Michigan to take his Bachelor of Arts degree. Perhaps he did not hear them during his pre-University days when for experiment he indulged in a little lumbering and railroad construction. But they were within earshot after his graduation when he started work with P. W. Chapman & Co., distributors of securities. And they blazed out again in 1926 when, at the age of thirty-two, he founded G. L. Ohrstrom & Co., Inc., investment bankers, became its president, and started out to guide its destinies.

Today he is one of the youngest investment bankers concerned with skyscraper construction, finances all the Starrett brothers projects, and is himself one of the founders of the Starrett Investing Corporation. His *pièce de résistance* thus far has been the shrewd and able financing of The Manhattan Company Building which, but for the shiny Nirosta steel spire atop the Chrysler Building, would be the tallest in the world.

Kaiden-Keystone

Louis Abrons

WHEN Louis Abrons wishes to express admiration for a man of business he calls him "dynamic."

Mr. Abrons is a native New Yorker and a Jew. As a small boy he swam in the East River off Eighty-sixth Street. It is a characteristic incident of the lives of all real estate operators and builders that at some point in their careers they buy their boyhood homes or rebuild the office buildings in which they were first employed. (It is getting to be very dangerous to employ a bright young man in a skyscraper of any considerable size.) But none of them have ever thought of returning to glorify the old swimming hole. None until Louis Abrons did it with his Carl Schurz Park development on that same east side.

Mr. Abrons is president of the new operating house, General Realty & Utilities Corporation. He is still young, perhaps forty-two. As a builder in the firm of Harby, Abrons and Melius he helped build up the Washington Square district. He is a believer in New York real estate and idealistic in his hopes for it, as members of his race often are. And he may well have as much to say about the realization of those hopes in the next twenty years as any man living. His slogan is: "Romance in business."

U. & U.

Simon William Straus

SIMON WILLIAM STRAUS and the first mortgage bond of commerce are practically synonymous. The tradition is that Mr. Straus invented the real estate bond. If he did, it was rather an application than an invention for all the elements existed long before Mr. Straus saw Ligonier, Indiana, or his father left Rhenish Prussia. But there can be no doubt at all but that the modern real estate bond invented Mr. Straus. Without its intervention in his life neither Mr. Straus nor the banking house which bears his name would now be anywhere in particular, to say nothing of where they are. Which is about the top of the real estate securities business.

Mr. Straus is credited by the promoters of great buildings with being one of the few men in New York who knows anything about the financing of their schemes. He has financed, among others, the Straus Building in Chicago, General Motors Building in Detroit, and the Eastern Ambassador Hotel at Atlantic City, the mortgages for each of these buildings exceeding twelve millions.

Mr. Straus' chief activity outside his business is, properly enough, Thrift. He is the founder and president of the American Society for Thrift which has been instrumental in having Thrift added to the curriculums of hundreds of schools. He is the author of the *History of the Thrift Movement in America.* And he writes a weekly essay on Thrift which is syndicated in five hundred newspapers.

It is Mr. Straus' belief that the American public overeats.

Blank-Stoller

William Hawxhurst Wheelock

UNLIKE most of Manhattan's great real estate operators, Mr. William Hawxhurst Wheelock was not born in a foreign country or in great poverty or in both. When he was a child he attended the Cutler School, a private school in New York City where the little boys wore black hats with maroon "C's" on them and sometimes played football or some such game at Van Cortlandt Park. After Cutler he went to Harvard and now belongs to the Union, Racquet, and University clubs. He is also fond of duck shooting.

He is probably the most energetic member of his well known firm, Brown, Wheelock: Harris, Vought & Co., Inc. and claims that his business gives him his greatest pleasure. His first great piece of work was assembling the land for the Pennsylvania Railroad Station. Probably his greatest piece of work was assembling the land between Forty-ninth and Fiftieth streets and Lexington and Park avenues for the now-building Waldorf-Astoria.

His associates are rather in awe of his tremendous energy. In summer he is particularly formidable, constantly mopping his brow, constantly in a hurry. He is fifty-four years old and looks less; he is about five feet ten and very stocky. He is a trustee of the Presbyterian Hospital and a Republican.

Kaiden-Keystone

Frederick Brown

THE name on the door is Frederick Brown. There is no further qualification or description. Inside are two bookkeepers, one stenographer, one secretary, one telephone (switchboard) operator, and a smallish, fresh-faced gentleman of sixty. From the photographic reproductions of Rembrandt, Van Dyck, Rubens, and Gainsborough on the walls one might think oneself in the presence of a magazine editor or a retired manufacturer of overalls. Actually one is in the presence of the largest individual real estate operator in the United States. And the originals of the photographs are all his.

Some forty years ago he arrived in New York from Carlsbad where he and his father before him and his grandfather before that had lived. Not poverty but love brought him to America. At first a clothing dealer, he became a real estate operator through the purchase in 1903 of 21 East Fourteenth Street. His total Manhattan transactions are now estimated at $500,000,000, his annual business at $60,000,000, his fortune from $40,000,000 to $50,000,000, and his opinion on a piece of real estate at par. He bought land which later produced the Hotel New Yorker, the Savoy-Plaza, the Lincoln Building, and the Sherry Netherlands. He was offered the Turkish embassy. He gave a million dollars to The New York Federation for the Support of Jewish Philanthropic Societies and to New York University a building on which they were paying an annual rent of $100,000. He hates all forms of publicity. And he believes in the city of New York and in its skyscrapers. Any building under twenty stories is to him only a taxpayer. "New York will be very beautiful," he says. "It will be a city of towers."

[*Continued from page 73*]

common stock, one share to each purchaser of a share of preferred and one share to the Fred F. French Investing Company, Inc. The entire earnings go first toward paying the 6 per cent cumulative dividends and then toward redeeming the preferred stock itself, which is paid off in about ten years and the profits thereafter shared by the French Company and the former preferred stockholders. Another similar plan combines the preferred stock in the particular building with common stock in a holding company which, in turn, owns the common stock of the building and a number of other buildings. The purpose is to combine preferred ownership in a specific property with equity holdings in diversified properties.

In all such set-ups the effect is to reduce the owner's investment to a minimum and to increase his ultimate profit. And great profits have been so made. But in skyscraper construction the mortgage houses prefer that the promoter, or the promoting syndicate, make a large enough investment so that he can be counted on to make a further contribution to protect his original investment should it be necessary. Since public participation direct or indirect has made possible most of the great buildings of our time, the protection of existing investments by every possible means is of prime importance to the bankers.

SOME FAMOUS MORTGAGES

First mortgage bond issue	*Amount of first mortgage*	*Independent appraisal of value of land and building at time of first mortgage*
LAND OWNED IN FEE		
50 Broadway Building	$4,500,000	$7,300,000
165 Broadway	9,500,000	16,080,007
Fuller Building	5,000,000	7,550,000
Fifth Avenue and Forty-third Street (Lefcourt National)	6,000,000	10,500,000
Lincoln Building	16,000,000	25,869,000
LEASEHOLD PROPERTIES		
80 Broad Street Building	$2,800,000	$4,235,000
Squibb Building	4,500,000	6,800,000
500 Fifth Avenue	7,000,000	11,500,000
Chanin Building	6,500,000	11,200,000
Chrysler Building	7,500,000	13,000,000
Graybar Building	10,500,000	18,000,000

Kaiden-Keystone

Robert Dowling

MR. DOWLING is the romance of real estate. His father was a Forty-niner. He was himself born among the jumping frogs of Calaveras County. He went into real estate in New York with a young wholesale fruit dealer. He made a fortune out of it. And now, in his sixty-third year, still young, still dressed as though Augustus Thomas had written him, a New Yorker and a metropolitan, he goes on as he began.

His office is in an old-fashioned six story building. His office force arrives from half-past nine to half-past ten. He himself arrives at half-past twelve. And leaves for luncheon at one. He enjoys prize fights as well as any *aficionado* of the good old days can be expected to enjoy them, and he understands prize fighters. And in knowledge of New York real estate he has no superior, if indeed he has an equal, in the world.

Of recent years Mr. Dowling and his City Investing Company have not been as active as they were. But rival operators are far from forgetting his existence. Like some of his contemporaries, Mr. Dowling is never so active as when he has retired.

U. & U.

Charles F. Noyes

THE life of Mr. Charles F. Noyes is worth exactly $2,400,000. If any one had told him so when he was running the candy concession on the Block Island boat in 1892 he would probably have gone into the Sound without a whimper. But the United Cigar Stores, which pay the premium, must know. They ought to. They paid just that for a part interest in his real estate business and insured him to protect themselves.

Mr. Noyes' office day contrasts curiously with that of Mr. Robert Dowling. Four and a half hours before Mr. Dowling appears at his office, Mr. Noyes is at his desk. He works sixteen hours a day. He will dictate for four hours straight to four stenographers, one an hour, and talk on the telephone for five. He attributes his health (and the insurance policy) to his habits of sleep. When he goes abroad in the summer as he usually does, he sails on a slow steamer and sleeps twelve or fourteen hours a day until he is slept up. Sometimes it takes six weeks. Sometimes it takes six days. When he finds himself waking at 6:30 A. M. he comes home. He takes passage on the fastest steamer he can find.

BURLINGA
PUBLIC
LIB.

Kaiden-Keystone

Fred F. French

THE French story and the Chanin story are alike in profile, Mr. Chanin's being the more spectacular and Mr. French's the more arduous. Mr. French did not establish himself in the sun until the advanced age of forty. Prior to that he had been a cigar salesman's son in the Bronx, a scholarship boy in the Horace Mann School, and at Princeton (for less than a year), a railroad employee, a ranch hand in New Mexico, a fireman in a quicksilver mine, an engineering student at Columbia, a timekeeper on a building job, a foreman on a reservoir contract; he had been penniless frequently and a failure as a builder at least twice, one of his failures saddling him with assumed obligations it took him years to pay off; and he had been hungry and unhappy as well as poor. But in his case as in the case of Mr. Chanin, it was the discovery of the means of credit which finally established him. His "French Plan" was promulgated in the years following 1920, and from that time on his buildings have steadily risen. Tudor City, the group of residential skyscrapers at the east end of Forty-second Street, is his great achievement to date.

Mr. French has, since he achieved it, made a profession of his success. He writes for *The Voice*, house organ of the French companies, accounts of his early struggle, and he addresses the French Company salesmen every business morning in the auditorium of the French Building on the technique of getting on. Mr. French has faith in mankind. He believes any man can learn to be a salesman, though Jesus Christ must remain "the best salesman of all time." Mr. French explains the words, "Knock and it shall be opened unto you." "What He meant was, 'Keep knocking until the door is opened and if it isn't opened pretty soon, kick down the door.' " Mr. French says he agrees with Jesus. "That's my philosophy, too."

Beyond his buildings, his business, and his Bruce Bartonesque beliefs, Mr. French's topography is rather flat. He dislikes the theatre because it is a waste of time and refuses to own an automobile. He neither drinks nor plays cards. He smokes cigars "to have one sociable habit." And work is the greatest joy he knows.

In his office in the French Building Mr. French has hung on one wall a photograph of President Roosevelt as a big-game hunter. On the opposite wall, in similar pose, also hunting, is Mr. French.

Harris, Forbes & Co.

Which, in 1929, led all U. S. underwriting houses in dollar volume of syndicates headed; which is the acknowledged sire of the bond salesman; which is the *only* U. S. house to have a lion-tamer for a vice president.

IN OTHER countries the investor, as a rule, goes to his bank and is permitted to buy bonds, but in America he is run to earth by a salesman and more or less coerced into absorbing securities. This difference in method, which is largely responsible for the rapid development of investment banking here, is almost exclusively the product of one organization. The modern technique of distributing stocks and bonds as well as many underwriting policies derives principally from N. W. Harris & Company and its successor, Harris, Forbes & Co.

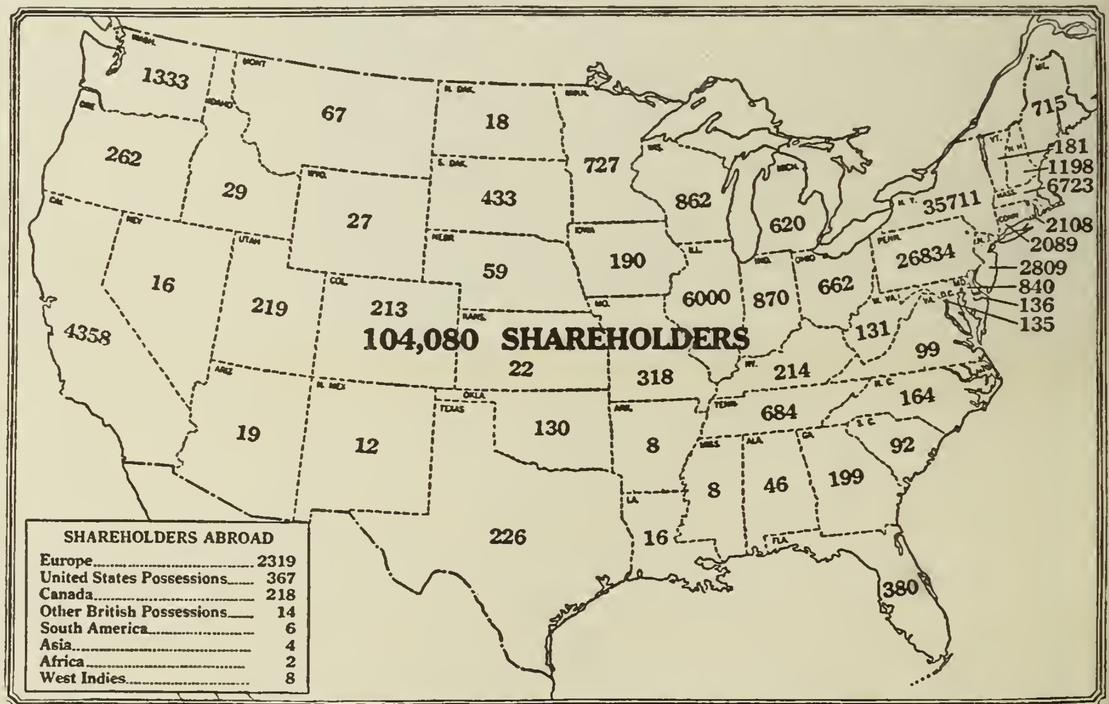
Norman Wait Harris, who founded the house to deal in municipals in 1882, was the first investment banker to send out salesmen. His contemporaries, operating on British conservative lines, scornfully called the new practice "ringing door bells." The keynote of the one banking method was dignity, of the other aggressiveness. In order to conceive the enormous consequences of his enterprise, it is necessary only to realize that Norman Wait Harris thus became the sire of all bond salesmen such as are employed now by nine out of every ten banks, trust companies, and investment houses. Indeed, until recent years it was generously said that 75 per cent of the men in the bond business were Harris trained. Less frankly acknowledged, but flattered by extensive imitation, are the many Harris, Forbes innovations in "setting up," advertising, and marketing security offerings.

Yet when Harris opened his first office in Chicago the public knew little, and not all that favorable, about bonds. The rewards of his first year's work were just two new clients. At that time, circa 1882, banks and insurance companies were the only consistent customers of bond houses, which were few in number but powerful in influence. Thus forced to create his own market, Harris began to employ newspaper advertising, supplemented by circulars and letters to investors. Gradually he trained and sent out a staff of half a dozen young security analysts who traveled around the country telling people of wealth about bonds, the principles underlying them, and the care with which they were purchased by the Harris organization. These men made no attempt to sell directly at first, so in 1887, when Harris had been in business five years, his volume of sales was only $3,000,000. In the next decade, however, the Harris "missionaries" began to bring in converts, and they were so successful that by 1895 sales mounted to $20,000,000.

In 1891 Harris persuaded Allen B. Forbes to quit the legal department of Swift & Company to become an investment banker. Forbes moved to New York in 1900, within a year became senior resident partner of the firm to which he added his name in 1911. But the modern period of Harris, Forbes' development dated from the day Forbes came to Wall Street. He found that his firm already had invaded upstate New York and New England in competition with some of the oldest and richest eastern bond houses. In 1886 Harris (who was born in Becket, Massachusetts, in 1846) had established a Boston office which, despite the fact that its first three salesmen resigned in discouragement and disgust, was now turning in a large annual volume of sales.

Indeed, upstate New York had become the training field for young Harris, Forbes "missionaries," by now recognized, of course, as bond salesmen. Early in 1902 Harris happened to be in Syracuse exercising his peculiar talent for issuing more orders than ever could be carried out by a given number of men. There he encountered a new salesman, Charles E. Gardner. Now Harris hated complacency, so when he asked Gardner if everything were "all right," he exulted in Gardner's emphatic opinion that there was much to be desired. "Too many cub salesmen are being sent after rich accounts with an insufficient knowledge of securities and salesmanship," Gardner said. "What the New York office needs is a real school for bond salesmen." "Report there at once and set up such a school," Harris told Gardner. The latter moved down from Troy and Harris, Forbes saw its first school for bond men, crude at first but later a tremendously effective machine for building sales.

A distinct pioneer in direct solicitation of investment accounts in the eighties, Harris became only a part of a movement when, three decades later, every major bond house in Wall Street began to train its own salesmen. One or two other institutions established more elaborate machinery for processing graduate raw material, and colleges and universities began to awake to the necessity for courses in business administration. The influence of the movement Harris inaugurated, however, affected a whole generation of students so profoundly that, for several years after the War, it appeared inevitable that college graduates must begin their march to fame by selling bonds.



SHAREHOLDERS ABROAD	
Europe	2319
United States Possessions	367
Canada	218
Other British Possessions	14
South America	6
Asia	4
Africa	2
West Indies	8

THIS CHART SHOWS THE WIDE DISTRIBUTION ACCORDED ASSOCIATED GAS & ELECTRIC SECURITIES. HARRIS, FORBES HAS BEEN A MAJOR FACTOR IN THE NATIONWIDE OWNERSHIP OF A COMPANY WITH ASSETS OF $319,828,169

BOUQUET

"IT was a lucky day for us when we put our advertising in the hands of Young & Rubicam. Not only do they know how to sell merchandise through advertising, but they place the welfare of our business above any purely selfish considerations of their own." SAMUEL MESSER, PRESIDENT, QUAKER STATE OIL REFINING CO.

The present Harris organization centers around Harris, Forbes' New York headquarters at Pine and William streets. So powerful was the founder's phobia against speculation that he would never have a Wall Street address, which he identified with stock gambling, and this is a tradition that probably will be honored for years to come. The firm nowadays participates in almost one billion dollars of new financing annually as originator, distributor, or both. Thus it differs from such banking houses as Morgan or Kuhn, Loeb, which, preëminent in originations, maintain no retail outlets.

In 1916 the old partnership of N. W. Harris & Company was dissolved, and the eastern elements of the business were sold to Mr. Forbes and his associates in the New York and Boston offices. The Chicago branch was incorporated into the Harris Trust & Savings Bank, an institution whose stock is publicly held in small part. The old reciprocal arrangements between the New York, Boston, and Chicago offices, however, have been preserved.

Although primarily a selling organization, Harris, Forbes is not thus limited in its sphere of influence. The firm is one of the handful of sovereign powers that rule Wall Street's banking world. Founded and operated for several years as a municipal bond house, it gradually developed public utility banking, which is now its chief activity. In the past decade the firm has assumed an increasingly important position in industrial and investment trust financing. Before almost all of its contemporaries, Harris, Forbes realized the diverse and useful functions of the investment trust and, in 1927, became bankers for the American Founders group. The house also has taken an active part in foreign financing, particularly in the post-War flotation of German state, municipal, and utility issues.

Harris, Forbes' business yearly grows greater. Its activities since 1925, in 1929 alone, and in the first quarter of 1930 may be gauged by the appended table. This excludes domestic and Canadian municipals, reckons preferred stocks at par and common stocks at their offering prices:

	As syndicate head	*As syndicate participant*	*Total business*
Jan. 1, 1925 to Jan. 1, 1930	$1,574,482,500	$2,749,500,500	$4,323,983,000
1929—Full year	*370,658,000	470,566,000	841,224,000
1930—First quarter	123,000,000	418,900,000	541,900,000

* *Led all American underwriting houses in dollar volume of syndicates headed in 1929*

Harris, Forbes' good will extends to many out-of-the-way regions because of the firm's long usefulness as a municipal bond house. In addition to financing for hundreds of smaller communities, the firm has floated the issues of every city of more than 100,000 population in the United States. In fifty-five of these cities it has, as well, assisted in financing one or more of the public service corporations. Many bond houses have had a hand in this development but, in most instances, the records show that the Harris organization was the pioneer banker.

The firm has many constructive achievements to its credit. It killed the practice known as "bidding off" municipal issues. Under this system the winning bid was prearranged by the buyers, but the actual sale was made within the buyers' syndicate to the member offering the highest price. The average, of which the municipality was defrauded, was then divided between the syndicate participants, amounting in extreme cases to five or ten points. Harris, Forbes sponsored the now general practice of retiring municipal term issues by serial maturity and fought for adequate sinking fund provisions in all flotations. The firm always contended that the life of a bond issue should never be longer than that of the improvement for which it was sold and that arrangements should be made beforehand for repayment of a municipal loan without resort to refunding.

So extensive is the Harris, Forbes sales empire that the firm is much sought as a participant in syndicates. And, being helpful to so many bankers, the house has many friends, few, if any, known enemies. It is not, like many banking institutions here and abroad, hierarchial. In its forty-eight-year history no family lines of succession have been laid. It is rather a republic of finance in which any male, white employee ultimately may become president.

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Thus was fulfilled the aspiration of Lloyd Waddell Smith, now president of Harris, Forbes and chairman of its board. Certified an attorney by Harvard and New York State (after Andover and Yale), he entered the Harris organization's Chicago office in 1899. Before the end of the year he was transferred to the New York office, where he became a member of the firm in 1909. Mr. Smith assumed the presidency in 1921, succeeding Mr. Forbes, who became chairman of the board.

Mr. Smith coördinates all of Harris, Forbes' activities, the work of its members, its numerous branches, salesmen, buyers, and statisticians. Tall, silver-haired, and earnest, he presides daily over the fifteen-minute morning conference of the firm's members, delegates authority, distributes rewards. He is known as a fair-minded, able financier in any field, and as a man who has made uncommonly few mistakes in his career.

Mr. Smith's recreations are horticulture and history. They find expression in his model farm in Madison, New Jersey, and in his collection of Americana. The latter is notable for its valuable letters, including those of General Washington and John Quincy Adams. He is a member of both the New Jersey and New York Historical Society. He dislikes personal publicity but is an authority on advertising, which he supervised for his firm for many years before becoming its head.

Harris, Forbes is the only investment house in the world whose senior vice president is a lion-tamer. This incongruity is chargeable to Mr. Charles W. Beall (pronounced Bell) who, being a bachelor, has adopted three lions, two tigers, half a dozen leopards, a jaguar or two, and many monkeys and snakes. He is the real owner of that conscientious troupe of entertainers known as Weir's (Mr. Beall's middle name is Weir) Performing Elephants, favorites at the Hippodrome and Luna Park, New York. The remainder of his menagerie is lodged at Rockville Center, Long Island, where the public pays ten cents, school children nothing, to see it. One day in almost every week the zoo is closed and its owner, dressed in heavy canvas garments, mingles with his pets. Mr. Beall's hands bear many small scars from these training encounters. Once he rented an empty brewery to house his menagerie; again, with Harris, Forbes talent, staged a circus in the grand ballroom of the Pennsylvania Hotel. In his office or out he chews on thick, black cigars, talks in a sonorous drawl like the showmen who are among his most intimate friends.

Mr. Beall, who entered Harris, Forbes as a clerk, is the author of many clauses now found in public utility mortgage indentures. He is regarded as without superior as a buyer of utility securities, particularly those of electric companies.

One of the most active members of the firm is Frederick S. Burroughs, who is a director of many investment trust and utility companies. The Chicago branch of the organization is headed by Albert W. Harris, son of the founder who also is chairman of the Harris Trust & Savings Bank's board. In Boston, John R. Macomber, sportsman, civic and industrial leader, holds sway.

One of Mr. Smith's first duties with Harris, Forbes was to sift out applicants for positions. He took this, as he has all his work, seriously and developed a system for selecting promising young men. Preferring college graduates, Mr. Smith always sought to employ those who had "done something" on campus or in classroom. One day Yale sent him a young man who admitted that he had excelled neither in scholarship nor athletics. What, then, did the young man go in for?

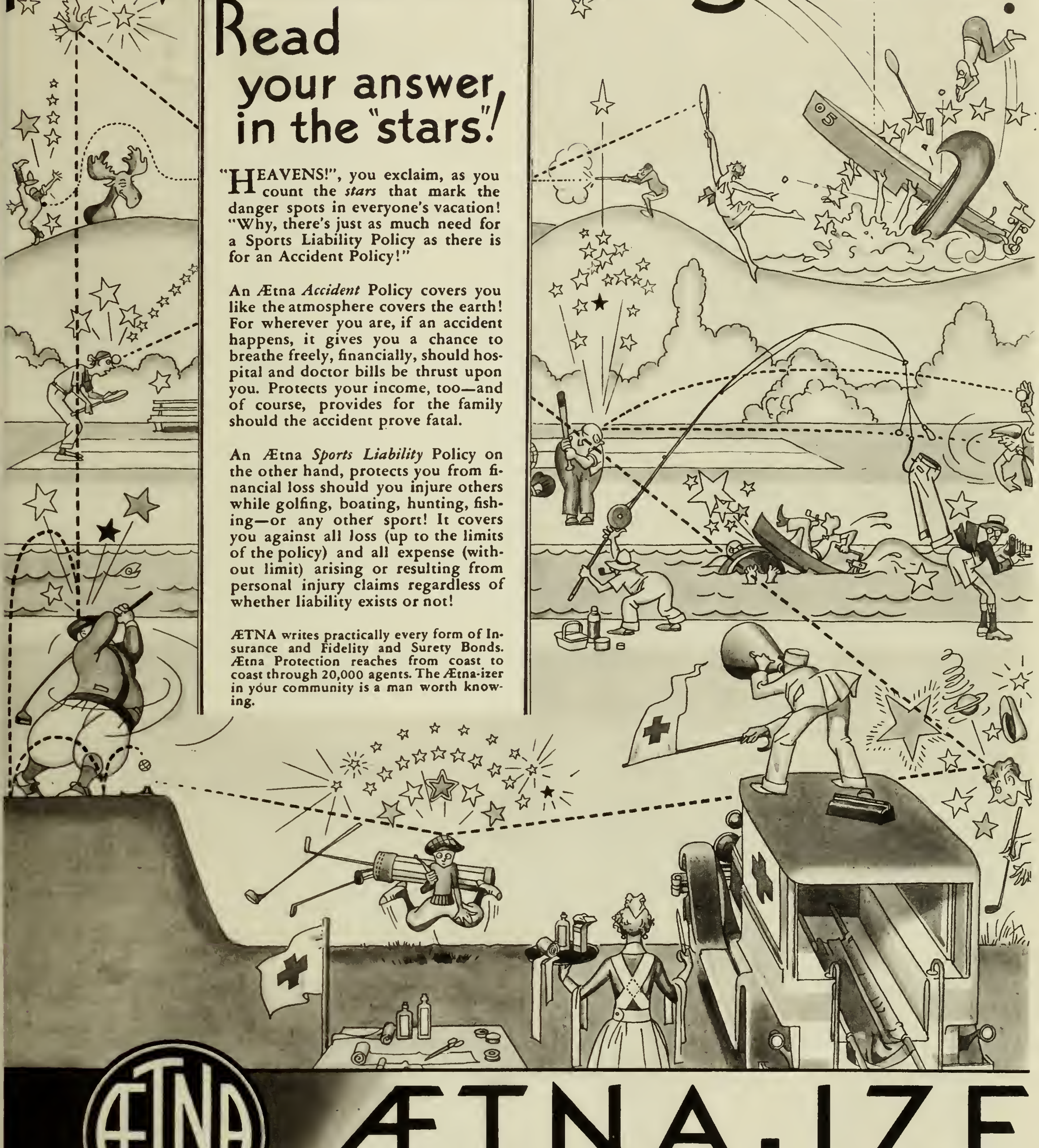
"I was careful," the applicant replied, "to get passing grades in every subject, but all of my spare time I spent in getting acquainted with all the students. I know personally more of the students who were there during my four years than any other man in Yale."

He, E. Carleton Granbery, got the job, became a specialist in rail financing and trust banking, and is now a vice president in charge of foreign business.

No such educational advantage had Vice President Harry M. Addinsell when he joined the firm. Entering the buying department, he dug deep into utilities while studying electricity and kindred sciences in night school. His thoroughness won for him membership in his firm, which he represents at the present time on the board of the New York Trust Company.

Is Vacation Safe?

Read your answer in the "stars"!



"HEAVENS!", you exclaim, as you count the *stars* that mark the danger spots in everyone's vacation! "Why, there's just as much need for a Sports Liability Policy as there is for an Accident Policy!"

An Ætna *Accident* Policy covers you like the atmosphere covers the earth! For wherever you are, if an accident happens, it gives you a chance to breathe freely, financially, should hospital and doctor bills be thrust upon you. Protects your income, too—and of course, provides for the family should the accident prove fatal.

An Ætna *Sports Liability* Policy on the other hand, protects you from financial loss should you injure others while golfing, boating, hunting, fishing—or any other sport! It covers you against all loss (up to the limits of the policy) and all expense (without limit) arising or resulting from personal injury claims regardless of whether liability exists or not!

ÆTNA writes practically every form of Insurance and Fidelity and Surety Bonds. Ætna Protection reaches from coast to coast through 20,000 agents. The Ætna-izer in your community is a man worth knowing.

ÆTNA-IZE

SEE THE ÆTNA-IZER IN YOUR COMMUNITY – HE IS A MAN WORTH KNOWING

Clients of Harris, Forbes

American Founders Corp.

And the youthful Mr. Seagrave

BACK to back with Harris, Forbes on Pine Street stands the American Founders Corp., senior, largest, and perhaps most successful of the nation's investment units. Its statistical resources are unmatched, its economics department—presided over by Dr. Rufus S. Tucker—as far-seeing as academic eye can reach. Dominant interests in the Founders regimentation of capital and intelligence are Louis H. Seagrave, thirty-eight-year-old Iowan, and Harris, Forbes. The extent of the bankers' interest in the Founders group has never been revealed, but is indicated by the fact that of the seven United and fourteen American Founders directors, two of each are Harris, Forbes representatives.

Control of these general management companies recently was transferred from American to United Founders, giving the latter consolidated net assets of considerably more than $300,000,000. A critical analysis of this nest of investment units by Mr. John T. Flynn, published in April by the *New Republic*, estimated that adequate working control of these huge resources has been obtained by the sponsors with an investment of probably less than $40,000,000 through smart allocation of voting power. Impeachable or not in its methods and capital set-up, the Founders group has been remarkably successful. For the past eight years, including 1929, American Founders has averaged a net return of more than 10 per cent on its funds. United Founders, organized in February, 1929, managed to earn $15,583,190 before November 30, last, while on January 1, 1930, its investments taken at current market quotations were above actual cost.

Ramifications of the Harris, Forbes-Founders trust holdings are shown by the appended list of controlled or affiliated companies, with certain of the principal interests of such companies:

*PUBLIC UTILITY HOLDING CORP. OF AMERICA

Associated Gas & Electric Co.
Central Public Service Corp.
South American Railways Co.
Indiana Consumers Gas & By-Products Co.
L'Union Electricque Rurale
Westphalia United Electric Power Corp.

*UNITED STATES AND OVERSEAS CORP.

- United Founders Corp.
    - U. S. Electric Power Corp.
    - Standard Gas & Electric Co.
    - United National Corp., Seattle
    - Insuranshares Corp. of Delaware
- American Founders Corp.
    - International Securities Corp. of America
    - Second International Securities Corp.
    - United States and British International Co., Ltd.
    - American and General Securities Corp.

American and Continental
North and South American Corp.
International and General Corp.
Trans-Oceanic Trust, Ltd.

**Officered by members of Horris, Forbes & Co.*

AMONG THE HARRIS, FORBES CLIENTS

Public Utilities

Alabama Power Co.
Arkansas Power & Light Co.
Associated Gas & Electric Co.
Birmingham Electric Co.
Buenos Aires Central Railway and Terminal Co. (Argentina)
Cities Service Co.
Central Public Service Corp.
Electric Power Corp. (Germany)
Illinois Power & Light Corp.
Kansas Power & Light Co.
Lincoln Telephone & Telegraph Co.
Los Angeles Gas & Electric Co.
Louisville Gas & Electric Co.
Minnesota Power & Light Co.
Nebraska Power Co.
New England Gas & Electric Association
New England Power Association
Nippon Electric Co., Ltd. (Japan)
Pacific Northwest Public Service Corp.
Portland Gas & Coke Co.
Silesia Electric Corp. (Germany)
South Carolina Power Co.
Southern California Edison Co.
Southern Cities Public Service Co.
Stettin Public Utilities Co. (Germany)
Terni Industrial Electric (Italy)
Texas Power & Light Co.
Toledo Edison Co.
Wisconsin Gas & Electric Co.
Wisconsin-Michigan Power Co.

Industrials

American Colortype Co.
American Rolling Mills Co.
Brown Co.
Detroit & Canada Tunnel Co.
Fairbanks, Morse & Co.
Gesfuerel Co. (Germany)
Libby, McNeill & Libby
Phillips Petroleum Co.
Price Bros. & Co., Ltd.
United Industrial Corp. of Germany (VIAG)

Foreign, State, and Municipal

Free State of Prussia
German Consolidated Municipal Loan
City of Munich
Duisburg, Germany
Province of Cordoba, Argentina

Mr. Seagrave is a forceful board chairman. He weighs over 200 pounds and is built to scale. When he comes to a narrow door, he edges through sidewise. He was an All-Western guard on the Washington football teams of 1915 and 1916, and he still sees something of his old coach Gil Dobie, now at Cornell. He goes in for boating, riding, and squash tennis, all with characteristic vigor. His squash strategy is to plant himself solidly in the center of the court and let his opponent and the ball bounce around him. He enjoys commuting into New York from Mamaroneck in his sixty-foot boat, the *Tyee* (Chinook for "Chief"), at twenty-five miles an hour. Other things he likes are contract bridge and singing in impromptu quartets. What he likes best, however, is building more stately financial mansions for his utility companies. His last vacation was a pleasure-business trip to Europe in the spring of 1928.

Harris, Forbes and Utilities

Three major systems, discussed in superlatives

FOREMOST among Harris, Forbes clients is the rapidly expanding Associated Gas & Electric System, with its $1,000,000,000 assets, 1,370,000 customers, 190,000 stockholders, and annual gross of $105,000,000. J. I. Mange is president and chairman of A. G. & E., but Howard C. Hopson is its "front man," its vice president and treasurer. The corporate body of A. G. & E. wields two arms: its operating properties are supervised by the J. G. White Management Corp., while, to quote from a Harris, Forbes pamphlet, "the financial management of the system is under the direction of H. C. Hopson (*idem*) & Company, who are specialists in the field of finance, taxes, and public utility accounting."

Therefore, it is apparent Harris, Forbes assumes no ethical liability for some of the A. G. & E. policies, which in recent months have brought Mr. Hopson and his company into disfavor in certain quarters, notably upstate New York. Nevertheless, two Harris, Forbes representatives—C. W. Beall and F. S. Burroughs—are seated on the ten-man board of A. G. & E. directors.

Of almost equal consequence in the Harris, Forbes ledgers is Henry Latham Doherty's vast Cities Service Company. This billion dollar collection of public utility and oil enterprises lists 750,000 stockholders, more than any other corporation in the world. Ten years ago holders of Cities Service common alone numbered less than 5,000; today they total 359,000. Cities Service gross earnings for a year are near $200,000,000. Oil flows from 5,494 producing Cities Service wells scattered over 3,160,850 acres of leased oil and gas lands. Last year the Doherty companies delivered to consumers 1,587,517,000 kilowatt hours of electric current, 122,466,300,000 cubic feet of gas.

The weight of the combined Harris, Forbes-American Founders influence was manifest early this year when these interests assumed, through their United States Electric Power Corp., a dominant position in Standard Gas & Electric Company. Although this company, with its assets of one billion dollars, constitutes the second largest group of public utility properties in the country, its control had been injudiciously invested in one issue of only $1,000,000 of 6 per cent *voting* preferred stock, solely owned by H. M. Byllesby & Company. This issue has been cancelled, and control of the enterprises is now shared by the new interests with the Byllesby concern which, under terms of the truce, was retained as manager of the Standard Gas & Electric properties.

IN THE BATTLE OF THE BRANDS only modern plants can survive

Never-ending is the pressure of progress; relentless the tides of changing demand, altered conditions, and competitive improvements. Constantly they batter the strongholds of production and distribution, seeking out weak spots in plant equipment, obsolete buildings, inadequate methods.

Volume must hold its ground and make new gains . . . wages must uphold the morale of labor . . . yet production costs must shrink to meet the trends of rival prices. Otherwise profit joins the casualty list.

Industry today answers the challenge with straight-line production . . . not in one industry alone, but everywhere. Shrewd foresight goes into plant design so that one operation follows another with exacting precision. A predetermined schedule meets speed requirements and cuts costs by eliminating lost motion.

From widely varied industries comes the experience that Austin Engineers bring to your problems of plant design. Whether you plan to modernize your present facilities . . . to build a complete new plant, branch units, or warehouses . . . Austin Engineers are equipped to serve you anywhere in America—or anywhere in the world.

Preliminary consultation with Austin Engineers . . . without obligation—will bring you vital information. Approximate costs on any contemplated project gladly furnished. Phone, wire, or write the nearest Austin office.

BURLINGAME PUBLIC LIB.

THE AUSTIN COMPANY

The AUSTIN METHOD *of Undivided Responsibility*

Design, construction and building equipment . . . separate responsibilities ordinarily . . . become one unified responsibility under The Austin Method. One nation-wide organization handles the complete project under one contract which specifically guarantees in advance, total cost, time of completion with bonus and penalty clause if desired; and high quality of materials and workmanship.

THE AUSTIN METHOD

ENGINEERS AND BUILDERS . . . . CLEVELAND

ANTIQUES
THE FIGURE HEAD ANTIQUES
EDW. A. WILSON

If vacation brings you to NEW ENGLAND *we invite you to pay us a call. It will permit us to handle with despatch whatever banking requirements you may have away from home. And more important, it will enable you to establish personal contact with the executives of New England's foremost financial institution.*

* * *

The FIRST NATIONAL BANK *of* BOSTON

Fortune Supplement: Trends & Men

Hearst Stock in Public Offering

THE general and in particular the financial condition of the newspaper satrapy of William Randolph Hearst became, on July 7, a public affair. But not very public. Inviting the public to buy $50,000,000 of stock, Mr. Hearst told some things of interest.

It was the biggest, one of the most curious, and by all odds the most dramatic piece of stock financing Wall Street has seen this year. Literally, Wall Street did not see much of it. For huge though it was, no investment banker was reported as having any share in it. It was offered for sale direct to the public through the offices of Hearst newspapers and inconspicuously through several big banks or their securities.

Briefly, and not to be technical, the deal was as follows: Mr. Hearst took ten big newspapers and the *American Weekly* (which is the colored Sunday supplement that goes with all Hearst papers) and put them into a corporation called Hearst Consolidated Publications, Inc. He told the public that these eleven publications made an average of about $11,000,000 from 1926-29. In 1929 their net profit was $12,854,626.69 out of gross receipts of about $83,000,000. This was after allowing bond interest of some $2,300,000 (assuming an average interest rate of 6 per cent). So that profits for 1929 before bond interest would be about $15,000,000. He did not specify what each paper made, but one newspaper publisher made the following guess for 1929:

San Francisco *Examiner*	$2,000,000
S. F. *Call-Bulletin*	500,000
Los Angeles *Examiner*	2,250,000
Los Angeles *Herald*	1,500,000
Oakland *Post-Enquirer*	250,000
N. Y. *Evening Journal*	1,500,000
Chicago *American*	1,500,000
Detroit *Times*	1,000,000
Pittsburgh *Sun-Telegraph*	1,000,000
Seattle *Post-Intelligencer*	500,000
American Weekly	2,500,000
	$14,500,000

Which as a guess may be as good as any since it adds up pretty closely to the slated fact.

On the basis of average earnings, the total value of these properties might be put at $125,000,000, a grand round sum. (If times were bullish you might put it higher, but probably not now, especially as most of these papers have reached a high state of development.) Against this value there are some $38,500,000 of bonds outstanding. And on top of this Hearst Consolidated now offers $50,000,000 of 7 per cent Class A stock, which is a sort of preferred stock. This means that bonds and preferred account for nearly $90,000,000 of an estimated $125,000,000 value. To say the least, this indicates the greatest confidence in the stability of newspaper properties.

However, the 7 per cent Class A is made more attractive by reason of its right to participate with the common to the extent of an additional 3 per cent. That is, if you buy $1,000 worth of stock, you can get as much as $100 in dividends if the papers make sufficient earnings. But you cannot vote except in the sad event that four quarterly dividends are passed. And, on the other hand, your stock can be called in for $1,200.

So, in short, Mr. Hearst is not making you a full partner. He is merely saying in effect that he has built up magnificently huge and stable properties in which you may now invest with hope of a high yield but without hope of multiplying your capital. All the ordinary common stock is apparently retained by Mr. Hearst and his employees.

Why did he do this? Usually the purpose of a stock issue is expounded at least in generalities, but Mr. Hearst gave no reasons. Two of his financial writers (Messrs. Forbes and Rukeyser) praised the sociological merits of letting the public associate itself with the ownership of newspapers.

Ever since the late Senator George Hearst of California gave his stripling son "Willie" the sickly San Francisco *Examiner* as a plaything William Randolph Hearst has been accustomed to owning the show. In the eighties and nineties he owned the *Examiner* and made a newspaper out of it. Other men spread the grease and wrote the copy, but Mr. Hearst owned both the presses and the pulp and wrote the spirit of the paper, and there was no mistake about it. Last year he still owned the *Examiner* and 23 newspapers and 14 magazines. And there was no mistake about *that*. When his private car glided into a town where there was a Hearst newspaper, Mr. Hearst had no hesitation in sending a messenger to the newspaper office with instructions to bring back thousands of dollars in cash and charge it to his personal account.

But money has never greatly concerned Mr. Hearst. Heir to a huge fortune which he rapidly multiplied and having a yearly income of millions—here was a rich man's son with a purpose. And rare is the journalist who will not say that Mr. Hearst is one of the greatest of all time. Certainly he has a record for quantitative success unmatched by anyone save Northcliffe. With Hearst as with Northcliffe (who put "N"s on his furniture), the career has been intensely and—the word must be used—dynamically personal. As his California province (still his most profitable) grew into a nation-spanning satrapy (the money-losing New York *American* is supposed to be his pet), he acquired, of course, able collaboration and delegated all detailed responsibility. But always he remained the autocrat. His whim was law. Thus it can scarcely be supposed that Mr. Hearst rejoices in the issues of bonds and preferred stocks. For the autocrat thus becomes, however slightly, a limited monarch. He has a financial accountability to the public such as he never had before. Necessity evidently intervened. The greatest necessity is, no doubt, provision for the future when he may have to be less active. He is sixty-seven. He has intelligent sons, but sons cannot be counted on to conduct a business at once so vast and so personal. Generally speaking, it is better to finance too soon than too late.

But also it is possible that Mr. Hearst desired to strengthen his immediate financial position. Not all his properties make money. He has some heavy losers. None of the losers were put into this deal. In New York and Chicago his evening papers make, but his morning papers lose. It is also probable that he loses in Boston, Albany, Rochester, Atlanta, Omaha, Washington (two papers), and Baltimore. On the other hand, his *Good Housekeeping* is one of the most profitable magazines in the world, and he has additional revenue from *Cosmopolitan*, *Harper's Bazaar*, etc., so that his net profit from publishing may easily run to $5,000,000 a year. Out of this, however, he has paid large sums for papers bought in recent years. So it is possible that, relative to the vast size of his enterprise, he required a larger supply of cash.

While it seems out of character for Mr. Hearst to be doing all this financing, the very size of it is a tribute to genius. When "W. R." left Harvard in 1885 all the newspapers in the land were not worth $90,000,000 which the public is now willing to invest in Hearst papers in bonds and preferred stocks.

Industry Retains High Wage Scale

ONE of the comparatively few encouraging aspects of the present business depression has been the absence of any concerted movement toward a downward revision of wages. There has been, unquestionably, a notable increase in unemployment, and there have also been wage reductions, as is shown by the fact that Federal Reserve statistics on factory pay rolls have declined considerably more than the same statistics on unemployment. Yet no one has arisen to announce a general wage-cutting program as a regrettable but a necessary retrenching measure. The theory of high wages has remained unchallenged. To the man without work, this theory may be more tantalizing than satisfying. To the man whose wages have come down, the absence of any economic doctrine explaining the inevitability of a reduction may appear irrelevant. Yet the fact that industry has so far remained in a period of marked depression, committed to maintaining, as far as possible, boom time wages is a safeguard against a more acute crisis and a possible indication of better times to come.

Economic theories seem often to function more as an explanation of an existing condition than as an analysis of a general condition. It was not until the late great bull market was drawing toward the close of its spectacular career that its exponents became sufficiently courageous to preach the doctrine of a pyramided prosperity. Almost exactly a year ago, however, that doctrine was given an official, almost a sanctified, expression in the report of President Hoover's economic council. The gist of this report was that the consumer's ability to consume was bounded by no limit; that the greater the country's production the greater the country's wealth and the higher its standard of living. Furthermore, the Hoover economists added, American industry had registered a notable triumph in keeping wages up during the post-War depression and in seeking its profits not through paying out less in wages but through taking in more in sales. The country was therefore encouraged to look forward to a period of continued prosperity based on an unlimited consumption capacity. General was the feeling that there had arrived a new economic era superior to the old sequence of inflation and depression.

Today, of course, a great portion of that new era theory has vanished, and from the extreme optimism of 1929 there has been, in many quarters, a rebound to an equally extreme pessimism of 1930. The American people are not so eager to purchase equities in American wealth, an hypothesis of unlimited consumption has collided with a reality of surplus supplies, and the traditional trade-cycle concept has substantially returned. Yet—and this is the vital point in the situation—even at a time when so much of the old structure of prosperity has been swept away, American industry is still clinging (though in some instances with rather a slippery clutch) to its high wage program. If economists today were generally conceding the impossibility of maintaining salary levels, if the leaders of industry were preparing a national program of salvaging dividends by contracting pay rolls; if labor were looking forward not to a possible, or even a likely, but an inevitable reduction of its earning power, it might then be said that our entire post-War development has been a snare and an illusion. Apparently, however, we have at least salvaged the high wage theory from the wreckage of Coolidge Prosperity; here perhaps was a sound foundation of a structure that rose rather too high and rather too rapidly.

Depression, meanwhile, stays with us, the more threatening because it is a world depression and because, as Owen D. Young and many another observer has pointed out, it is difficult for one of the world's nations to remain lastingly more prosperous than its brothers. As long, however, as Big Business remains as bullish as figures on steel production and freight car loadings permit and as long as Little Business does not get apprehensive and inaugurate a wage cutting program of its own, we should be able to mark time and to avoid calamity until we reach a period in which the undigested production of the recent inflation has been absorbed into the body economic.

Kilowatt Hours the World Over

ELECTRIC light and power men from all over the world gathered in Berlin last month, listened to some 500 papers on 500 aspects of the utility business. Indeed, the two papers most widely publicized were, from a strictly utility standpoint, almost irrelevant. Dr. Albert Einstein, exponent of relativity, explained to utilitarians how time and space must be united in a four dimensional *continuum* and how space is the only reality. Dr. A. S. Eddington, professor of astronomy at Cambridge, announced that there was sufficient energy in a drop of water to supply 200 horsepower for one year and that a portion of this energy could, perhaps, be released if it were possible to heat matter to a temperature of 40,000,000 degrees Centigrade.

The most significant of the papers dealing directly with utilities was presented by Dr. Oskar Oliven, German electrical engineer, who advocated a European super-power system linking the entire European continent in a system of five major transmission lines. One line would run from Sargossa, Spain, to Lyons, then east to Vienna, southeast through Rumania, and northeast to Rostof, Russia, at the mouth of the Don River. A second west-to-east line would go from Paris to Warsaw. Meanwhile there would be north-and-south lines from Calais to Lyons, from southern Norway through Sweden to Rome and from Warsaw through Vienna and south into Yugoslavia. The system would require 6,000 miles of high tension wires and would cost some $500,000,000. Although the Oliven project appeared feasible enough from an engineering standpoint, corporate and governmental complications make it chiefly of academic interest.

Other papers of general interest were supplied by Dr. H. Foster Bain, who estimated that minerals and mineral products (including coal and petroleum) comprised 70 per cent of the freight carried on North American railroads; by Dr. Robert Sibley, who told of Californian electric development with its record-breaking 250- and 300-mile 220,000 volt lines; and by Frederic M. Sackett, U. S. Ambassador to Germany, who annoyed utility men by complaining that the price of electric power was fifteen times its production cost.

• • •

While utility men were talking and thinking internationally in their Berlin meeting, Pynchon & Co., Manhattan financing company specializing in utility issues, was publishing international statistics of utility production and investment. Many of the Pynchon & Co. figures, prepared by Mr. C. M. Withington, are avowedly estimates. Even as such, however, they furnish a valuable comparative picture of utility development.

The electrical production unit is generally the kilowatt hour, which equals one and one-third horsepower or, in more familiar terms, is an amount of electric power sufficient to keep a forty watt lamp (which is a medium-sized household lamp) burning for twenty-five hours or to operate an average-sized electric iron for about an hour and a half. With an annual world production of some 300 billion kilowatt hours, the United States, with 125 billion, produces about four times as much electric power as Germany, its nearest competitor. The ten leading countries in kilowatt hour production are:

	Kilowatt hours (*in billions*)
United States	125
Germany	34
Canada	18
Great Britain	16.2
France	15.5
Japan	11.5
Italy	9.8
Norway	8.5
Russia	6.5
Switzerland	5.5

Canada, with its small population and great hydroelectric development, generates some 1,845 kilowatt hours per capita, as against 813 in this country, 450 in Germany, and 330 in Great Britain. Winnipeg has the world's greatest consumption per residence, Winnipeg families averaging 3,741 kilowatt hours and in many cases using electricity to heat homes and to heat water. The United States is the most thoroughly electrified country, U. S. industry being 75 per cent on an electric basis compared to 70 per cent for German, and 50 per cent for British industry. Switzerland, with its small area and ample power sources, is far in the lead in railway electrification, about 60 per cent of Swiss mileage being electrified, compared to 8 per cent in Austria, and 6 per cent in Italy.

Estimates of the money invested in utility plants are distinctly less accurate than estimates of electric production, although here again the United States is of course far in the lead. Leading countries according to Mr. Withington's Plant Investment table are:

	Electric Plant Investment (*millions of dollars*)
United States	11,045
Germany	2,700
Great Britain	1,500
Canada	1,000
Italy	945
Japan	600
Switzerland	312
Denmark	150
Mexico	130
China	110

The world investment in principal countries is some $18,805,000,000.

In addition to its domestic investment of $11,045,000,000, the United States has invested abroad, in utility financing, some $800,000,000 to $1,000,000,000. The most ambitious utility project in Europe is the Five-Year Program of the Soviet Union. This program (which will extend into 1933) calls for a plant investment of $2,302,000,000.

Rails into Ships & Higher Rates

THOUGH most of the month's railroad activities centered around the energetic Brothers Van Sweringen (see opposite page), by no means to be overlooked are such items as:

The Pennsylvania's active participation in the new $10,000,000 Baltimore Mail Steamship Company backed by the Baltimore Trust Co. and Roosevelt Steamship Lines. Formed to develop Baltimore as a seaport, the company will open in 1931 the first trans-Atlantic service out of Baltimore since the War. The Pennsy will supply rail connections and the use of the Canton Terminal docks. Also associated in the new line is Baltimore's other trunk railroad, the B. & O.—a strange bedfellow for the Pennsy.

The heavy depression in earnings. Class 1 railroads suffered a $149,350,000 decrease in net operating income for the first five months of 1930 (as against 1929). This is a 1.90 drop in investment return.

The downhill slide taken by rail stocks, largely as a result of poor earnings. Toward the end of the month the Dow-Jones average for rails was 128.88, just .81 of a point above the extreme low for last fall. During the last week of June, fifteen out of twenty-one representative rails broke through their November 13, 1929, low marks.

The long-awaited rate revisions by the Interstate Commerce Commission, which will mean a $10,000,000 to $12,000,000 increase in gross revenue for the western roads, and a $40,000,000 increase for eastern roads. The western and the New England rate structures, in particular, have for some time been recognized as in need of revision. Only class rates (traffic having high unit value and moving in limited quantities, as canned goods, machinery, etc.) are involved in the revision reports, which were written by the two big guns of the I.C.C.: Chairman Frank McManamy and Commissioner Joseph B. Eastman. In accordance with the Hoch-Smith Resolution, rates on agricultural products were not raised as much as other rates. The teeth of the Hoch-Smith Resolution, however, were drawn by a recent Supreme Court decision strictly limiting its application.

The suit brought by the government against the Elgin, Joliet & Eastern ("Chicago Outer Belt Line") to restrain it from transporting the products of U. S. Steel Corp., its owner. The question is: can the Commodities Clause (No railroad can haul commodities manufactured by itself or its subsidiaries) be interpreted backward?

nternational

A vital link in the transcontinental project of the Brothers Van Sweringen is the ine of the Denver & Rio Grande Western that twists through the spectacular Royal Gorge of the Arkansas River. Above is one of the world's longest suspension bridges, in the background the Continental Divide . . . Bloody and prolonged, s every railroader knows, was the battle between the Santa Fe and the D. R. G. W. or the right to build through the Royal Gorge. Court injunctions were supplemented by gun fights between the rival construction crews camped on opposite sides of the gorge. A cannon was brought into action on one occasion . . . But that was in the last century. Today the Van Sweringens find themselves in a bloodless conflict with Arthur Curtiss James over the Royal Gorge, each of them controlling one-half the D. R. G. W. and neither willing to yield. The recent election of three Van Sweringeneers to the D. R. G. W. board is to be noted.

Once More, the Vans in the Van

EASILY dominant in the month's railroad developnents were the Brothers Van Swerngen—or their enemies. It is growing more and more true that practically nothing can happen mong the railroads that does not ffect in one way or another the farlung Van Sweringen interests. The ail sensation of the month was the act that the only two large railoads to show an increase in May et operating income were the wo main stems of the Van Sweringen system: the Chesapeake & Ohio nd the Missouri Pacific. The later, at least, is not entirely unexpected: MOP earned $10.41 a share on its common in 1929 as against $7.15 in 1928. Whatever the explanation, the good news comes at the psychological moment for the Van Sweringens, whose rate of expansion of late had been rather rapid . . . Impressive evidence of this expansion was the opening of the brothers' new $88,000,000 Union Terminal in Cleveland. The total project, which includes a post office, a bank, and a Builder's Exchange, comes to well over $150,000,000. The tower is 708 feet high, the tallest west of New York. Every railroad that reaches Cleveland except the Pennsylvania will use the new terminal, namely, the New York Central, the Big Four, the Wheeling & Lake Erie, the B. & O., and the Nickel Plate . . . Of major financial interest was the move of the Van Sweringens' key road, the Chesapeake & Ohio, to split its stock four for one. Voted last fall by the directors, the proposal has now been approved by the Interstate Commerce Commission. The split-up sets a precedent in railroad financing. Frequently as industrials and utilities have split their stocks in recent years, never has a railroad done so. The Van Sweringens expect to secure a wider public distribution for the stock, which in turn means that the much-pyramided Van Sweringen rail holdings will be more independent of stock market fluctuations. The move appears to be canny as well as iconoclastic . . . Next to the Van Sweringens themselves, the most active railroaders have been their two chief opponents: Arthur Curtiss James and the Brothers Taplin, of Pittsburgh. Mr. James, whose control of Western Pacific is the last barrier between the Van Sweringens and the Pacific, was well pleased when the I. C. C. finally approved his pet scheme for linking the Western Pacific and the Great Northern. Specifically, the I. C. C. approved the building of 200 miles of line to connect the two roads into a second through route between California and the Northwest, the only existing route being that of the Southern Pacific. And on the Eastern front, the Brothers Taplin, ancient and bitter foes of the Brothers Van Sweringen, revealed to the I. C. C. that their plans for a fifth trunk line had by no means been abandoned . . . Thus even with their merger activities at a standstill the Van Sweringens continued to occupy the foreground of the railroad picture.

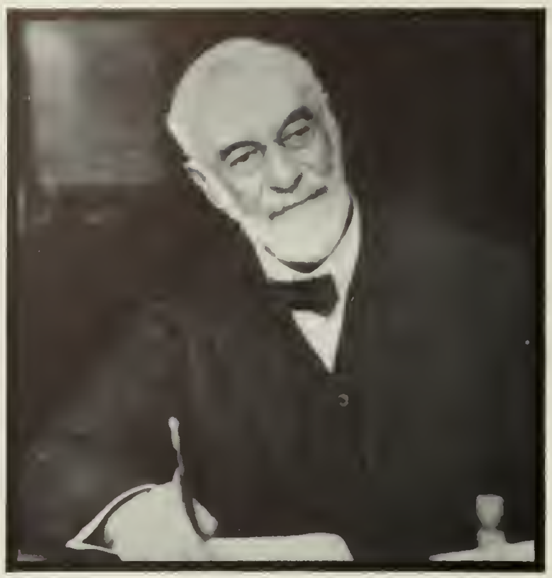
U. & U.

WHEN the Van Sweringens reorganized the Missouri Pacific, they left out former Chairman Williams and half the board of directors, but they took care to include President Lewis Warrington Baldwin. For the last thirty-four years President Baldwin has been operating railroads, and never more successfully than since 1923, when he became president of the Missouri Pacific.

Interviews and

U. & U.

The 25,000-volume collection of Shakespeariana made by the late Henry Clay Folger (above), one-time chairman of Standard Oil of New York, is said to equal that of the British Museum. The Folger will leaves $10,000,000 to build and maintain a Shakespeare library in Washington.



International

At the age of eighty-seven Dr. Stephen Moulton Babcock (left) receives this year's Capper Award (a gold medal and $5,000) for his great works in agricultural chemistry. His most important achievement is a machine for measuring the amount of butter fat in milk. It was this device which gave Dr. Babcock's university, Wisconsin, its nickname of "the butter fat university." Wisconsin, fittingly enough, is one of the great dairy states, and numbers among its teeming herds the 75,000 cows that supply A & P with evaporated milk. The Babcock test is a cornerstone of modern dairy practice. The "Babcock test," once remarked an agricultural Governor, "has made more dairymen honest than the Bible has ever made." However, its inventor has consistently refused to take out patents, has not made a cent out of the machine since he invented it over thirty years ago.

Keystone

The late William Boyce Thompson leaves a fortune (gained in copper, sulphur, oil, gold, and diamond mining) of over $85,000,000.

International

The late Harry C. Stutz, designer and manufacturer of fast automobiles, leaves a notable collection of firearms.

International

Arthur Stanley Eddington (left), of Cambridge University, is the author of that most lucid and accurate of scientific popularizations, *The Nature of the Physical World.* At the World Power Conference recently held in Berlin (see page 84) his speech created as much interest as did that of Ambassador Sackett. Of the future of power he prophesied: "We build a great generating station of, say, 100,000 kilowatts capacity, and surround it with wharves and sidings where load after load of fuel is brought to feed the monster. My vision is that some day these fuel arrangements will no longer be needed. Instead of pampering the appetite of our engine with delicacies like coal or oil, we will induce it to work on a plain diet of subatomic energy. If that day ever arrives, barges, trucks, and cranes will disappear, and a year's supply of fuel for the station will be carried in a teacup—namely, thirty grams of water."

U. & U.

Tubes a mile long have been figuring in the month's scientific news. M. Georges Claude (above) lost one, and Professor A. A. Michelson (below) gained one. M. Claude, inventor of the Neon light and many an industrial process, saw his giant tube slowly sink in the ocean off Havana after snapping two one-inch steel cables. He planned to use the tube to generate power from the temperature differences between the surface and deep waters. The tube was 5,905 feet long, cost $1,000,000. Though it was the second tube he had lost, M. Claude has received from the Cuban Government financial and technical aid, and is now starting to build a third tube. Meanwhile Professor Michelson, the University of Chicago's noted astronomer, is measuring the velocity of light in a test tube a mile long. Such a length is necessary to insure absolute accuracy. The tube, a segment of which appears in the background, *begins* at Santa Ana, California.

International

Faces of the Month

Keystone

Ignace Jan Paderewski was the subject of a notable interview by P. J. Philip, forty-two-year-old Scotsman, long-time Paris correspondent of the New York *Times*. There was little chatter. "This age is not propitious for art," plunged Mr. Paderewski. "It is an age of economics. It is an age of production, and as such it has great value, for it has brought greater comfort to the masses. If it is well directed it may later come to be regarded as one of the most valuable epochs of this ever-changing system of human life.

"But genius, and therefore the creation of great art, is impossible under the present system of living. Genius requires not only the divine spark . . . but also favorable conditions . . . what are most essential are quiet and intense concentration of mind. To have that nowadays one must retire to a hermitage to live, and even in a hermitage one cannot entirely escape the excitement . . .

"There is another handicap to the creativeness of art in the increasing tendency toward collectivism. People are more and more working in groups . . . But no poem or painting was ever created by a syndicate . . . Today the individual is being merged and lost in the group . . . When we pass beyond this age of comfort, there may be a renaissance. I do not predict this will happen, for I am no prophet. But art is luxury, and when people can afford luxury they usually look for artistic enjoyment."

Courtesy Caterpillar Tractor Co.

The New York *Herald Tribune's* Mr. Edward Angley, a French Texan in his thirties, obtained an interview with Thomas D. Campbell, biggest U. S. wheat farmer (95,000 machine-cultivated acres of wheat in Montana which yield 500,000 bushels a year). Mr. Campbell was again on his way to Russia, where he will spend three weeks in giving expert advice on Soviet farming problems. "I didn't much want to go," said Mr. Campbell. "Every time I said I couldn't they'd raise the offer. They've got plenty of money, all right, and they pay on the barrel head . . . Three weeks may not seem a long time, but I know farming . . . Why, I can ride over a field in the dark, and I can tell by the way the automobile bumps whether it has been well plowed or not. That's my business, farming.

"By golly, Russia is the biggest market in the world for American goods, if we'd only go after it. And we ought to do it now, because there is enough business there for American manufacturers to take up all the slack in this business depression . . . They want American goods, and they've got the money to pay for them. Of course, they want credit, and granting credit is for every man to decide for himself. But they've paid on the barrel head so far. My first trip to Russia resulted in three or four hundred million dollars' worth of business for American manufacturing firms. I got them $185,000,000 in agricultural implements and machinery alone. This time I expect an even greater result.

"Don't make any mistake about it. In three years Russia will be the biggest wheat exporting country in the world. The U. S. is going to have to reduce production."

Margaret Bourke White

U. & U.

Albert Russel Erskine (left), president of Studebaker, announces a radical improvement in automobile design: "free wheeling." Whenever the car goes faster than the engine, the rear wheels are automatically disengaged from the engine. Smoother riding is the alleged result . . . The man responsible for the nation's latest fad is Garnet Carter (center). Mr. Carter is proprietor of Fairyland Inn, on Lookout Mountain, Tennessee. He is also inventor of the Tom Thumb Miniature Golf Course. His idea started out as a putting green on the lawn of his hotel, gradually adding tunnels, bunkers, traps. The idea spread, was patented. Mr. Carter now has several factories turning out cottonseed-hull greens and hollow-log tunnels. So far about 5,000 courses at $2,000 apiece have been sold to concessionaires . . . President Donald Symington (right), of Baltimore Trust Co., heads the new Baltimore Mail Steamship Co. (see page 84).

THOMAS F. LEE, *born February 23, 1877, in Newark, Ohio, now of Scarsdale, N. Y., and South America*

ROBERT C. ADAMS, *born December 21, 1872, in Scranton, Pa., now of Newtown, Conn. and New York*

U. & U.

CALVIN COOLIDGE, *born July 4, 1872, in Plymouth, Vt., now of Northampton, Mass.*

Photo by Bachrach

REED SMOOT, *born January 10, 1862, in Salt Lake City, now of Provo, Utah, and Washington*

THOMAS SOVEREIGN GATES, *born March 21, 1873, in Germantown, now of Chestnut Hill, Philadelphia*

Keystone

JOHN MARTIN THOMAS, *born December 27, 1869, in Ft. Covington, now of Rutland, Vt.*

JOHN RAYNARD TODD, *born in Johnstown, Wis., October 27, 1867, now of New York, Easthampton, L. I., Camden, S. C.*

U. & U.

JAMES GILBERT WHITE, *born August 29, 1861, in Milroy, Pa., now of New York*

Career Milestones

¶Mr. Thomas F. Lee knows South and Central America. He began as an engineer. His first independent business adventure was in Mexico, with pineapples, his next in Mexican real estate, then reclamation of land in the Rio Grande Valley. He attracted attention by his economic and social studies of Salvador. In 1927 he joined F. J. Lisman & Co., Manhattan bankers.

In 1927 he conceived the idea of a fixed type of investment trust. F. J. Lisman & Co. was not very much interested. Mr. Lee started it with a group of friends. The last semi-annual dividend was $12,000,000. More than $100,000,000 have been invested in the company, North American Trust Shares. And now Mr. Lee retires. He will continue his South American studies, will publish a series of five books commissioned by a prominent university. If his interest in South America declines (which is doubtful) he will study Russia. He will also publish some poems he has never felt like releasing before.

¶At the age of twenty-one Robert C. Adams was director of almost fifty companies. His latest achievement was election as director and vice president of Bancamerica-Blair.

At fifteen Mr. Adams held his first important position as secretary of the Scranton Passenger Railroad Co. His *forte*, however, is not utilities but bonds. He likes modern painting, Stravinsky, and Charpentier's *Louise*. He used to paint "for my own amazement" and play the cello "and damn badly, too." He is one of the many successful members of the Henry Adams family.

¶"We need more faith in ourselves. Largely because of some decline in trade we have set about finding fault with nearly everybody and everything. We are told the President is wrong, the Congress is wrong . . . Yet our country, our physical properties and our industries have changed very little from a year or two ago when people were fairly content . . . My countrymen, it is time to stop criticizing and quarreling and begin sympathizing and helping!" Thus did Calvin Coolidge begin his career as daily newspaper paragrapher. Though phrase and rhythm were familiar, the stock market did not respond to its one-time idol with its old-time fervor. But there are other Coolidge paragraphs to come.

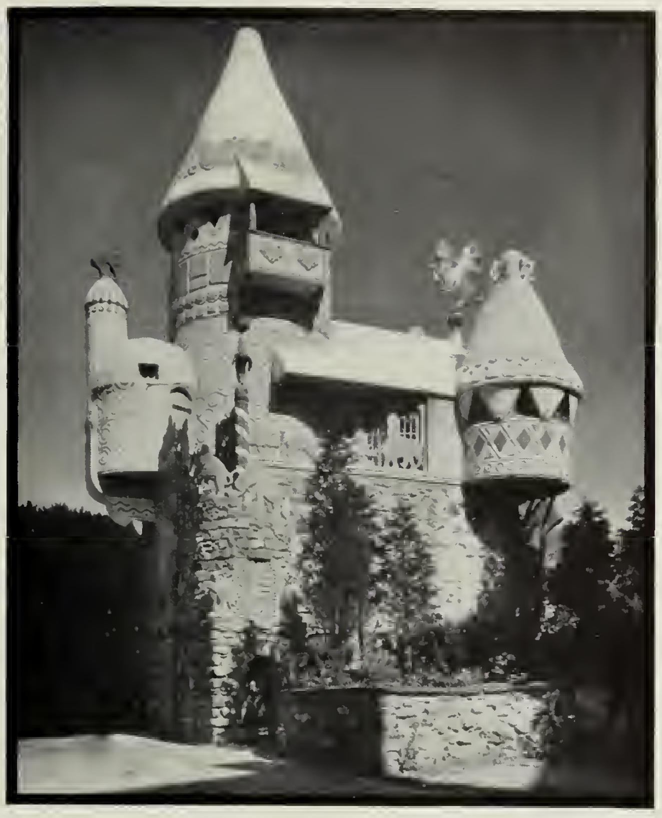
¶Father of six children, third highest dignitary of the Church of Latter Day Saints (Mormon), Senator Reed Smoot, humorless, indefatigable chairman of the important Senate Finance Committee, reached the zenith of a career largely devoted to the financial affairs of his country. He accomplished the passage of his Hawley-Smoot tariff bill, which calls for the highest average tariff in the history of his country. Another milestone was provided the Senator this summer by his marriage (for which the Salt Lake City Temple was specially opened) to Mrs. Alice Sheets, a Mormon of Salt Lake City whom he met at a Mormon service in Washington.

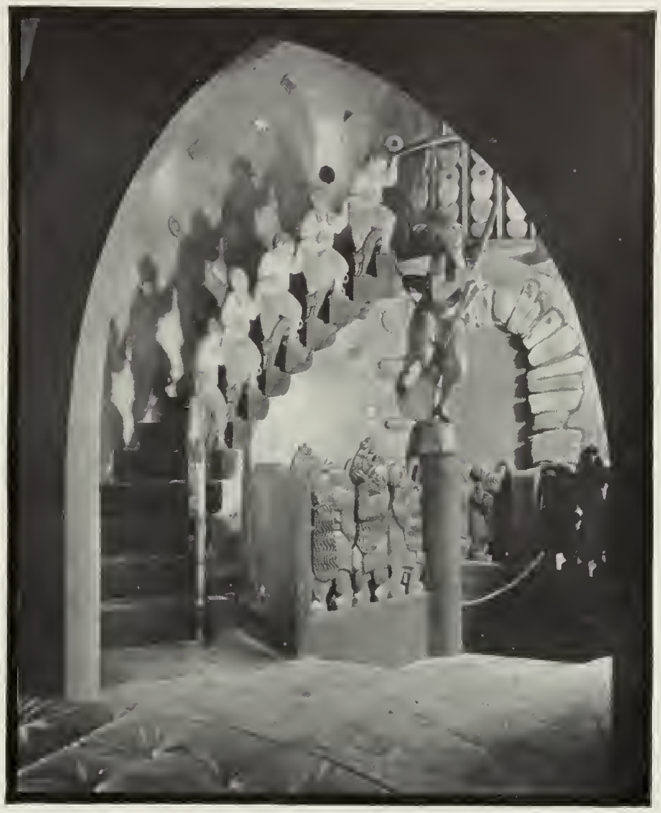
¶When Thomas Sovereign Gates went to Germantown Academy he preferred reading to sports. Later this quiet and pleasant young man reached what many will consider the corona of a financial career: partnership in J. P. Morgan & Co. and Drexel & Co. Like another Morgan partner, Dwight Whitney Morrow, Mr. Gates had desires beyond the holding of his much coveted position. "The supreme need of American society," he said, "is for men who can think." Accordingly when it was offered to him this summer, he accepted the presidency of his alma mater, the University of Pennsylvania.

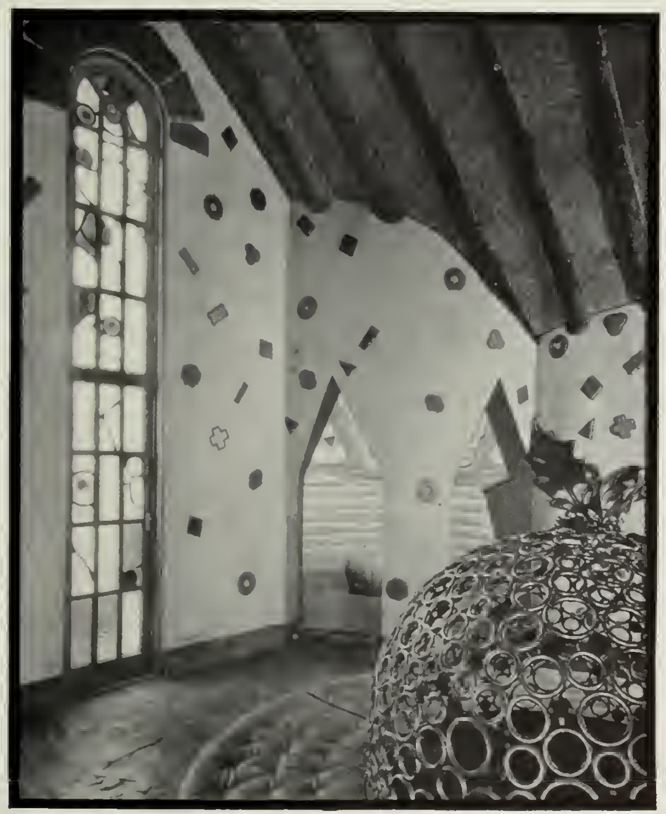
¶For twenty-two years Dr. John Martin Thomas devoted himself to college administration. For four years he was president of Rutgers University. His administration was marked by sound business policies. This summer Dr. Thomas returns to Vermont, where he was long president of Middlebury College. Not, however, as educator, but as first vice president of the National Life Insurance Co. of Montpelier.

¶To John Raynard Todd of Todd, Robertson & Todd, Manhattan engineers, is going credit for influencing John D. Rockfeller Jr., David Sarnoff, of Radio Corporation, and Hiram S. Brown, of Radio-Keith Orpheum, to build in New York a huge Radio City covering three blocks. It will cost approximately $250,000,000. Mr. Todd's firm will be contractors and engineers for the project. Its selection crowns a career which has included the building of Manhattan's Graybar Building, Cunard Building, and the Barclay Hotel (where Mr. Todd has a suite).

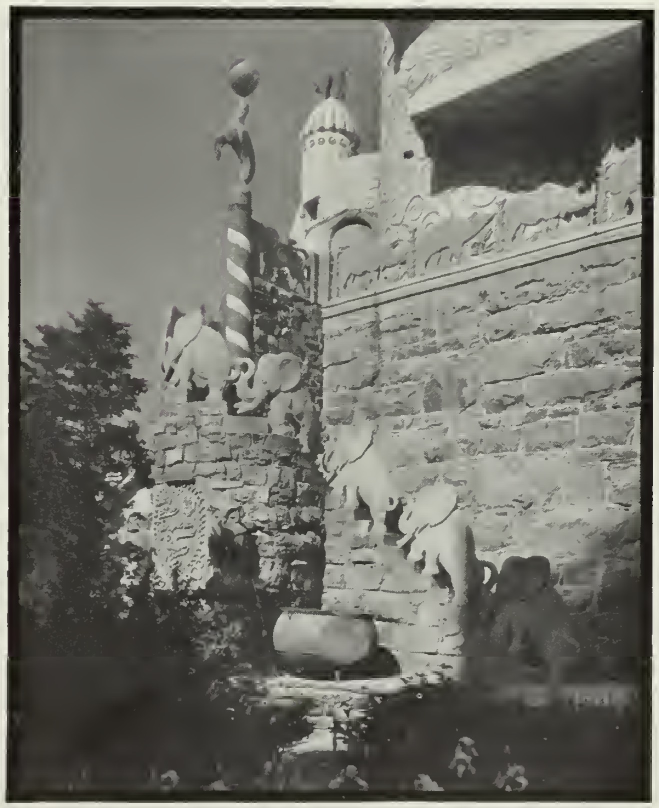
¶Retiring from the presidency of J. G. White & Co. Inc. (engineers, investment bankers), Mr. James Gilbert White this summer became chairman of the board and was succeeded by his son, James Dugald White, of whom it is said that no photograph exists. The elder White leaves to his son an organization which has built the Ritz and Waldorf hotels in London, railways in the Philippines, Holland, and New Zealand, is now acting as engineers for Abyssinia to dam the waters of the Blue Nile.







Nyholm & Lincoln



Urban Builds a Gingerbread Castle for Wheatsworth, Inc.

THIS fantastic structure is unquestionably the advertising stunt of the month, perhaps of the year, for such stunts are less popular than they once were. Sophisticated, indeed, will be the automobilist who passes through Hamburg, New Jersey, without a curious glance at the strawberry turrets and the vanilla-icing roof of the Wheatsworth gingerbread house. If he stops to inspect the building, he will see many a curious sight, perhaps learn somewhat of Wheatsworth, Inc., and the whole wheat flour it grinds in its mill near-by. President Floyd H. Bennett, of Wheatsworth, conceived the idea from the witch's gingerbread cottage at a performance of *Hänsel and Gretel* at the Metropolitan two years ago. He commissioned Joseph Urban, who designed the set, to build Wheatsworth a super-gingerbread house. This Mr. Urban did with great gusto. The walls are of poured stone brightly tinted. Inside there are many strange and wonderful things: notably, a *Hänsel-and-Gretel* staircase built on the cantilever principle (upper right), a birthday cake room, a room where sea horses, bats, and Al Smith's brown derby repose in happy confusion, a plum pudding room with walls studded with cookies (lower left), and a huge wire spider web from which dangles an alarming spider with large glass eyes. On the the lawn outside the castle are a witches' cauldron (capacity: eleven children) and a grotto with goblins lurking therein. The cost of the miniature palace was only about $50,000. Mr. Urban worked on its fantastic details for two years.

This Month's Issue of Fortune

Is subjected to comment from the stock market angle.

(By Carlton A. Shively of The New York Sun)

THE Turksib Railway, with its promise of greater Russian production of cotton and wheat, is a long way from the corner of Wall and Broad. But the prices of wheat and cotton are not. They are the key to the future of the stock market.

· · ·

National Cash Register has suffered with other office appliance and business equipment manufacturers in the worldwide depression. Earnings in the early part of the year were only about half those of last year. The company's earning record, goodwill, strong asset position, and the possibilities inherent in new models, such as the Ellis adding typewriter, have sustained the stock at a level showing a yield of a little over 6 per cent on the regular $3.00 annual dividend. Even that price is less than one-third the fantastic figure reached during the "new era." Unfortunately, N. C. R. was shoved ahead by a pool which was working for quick and large profits, regardless of intrinsic worth of the stock. Its fall was the harder because it had climbed so high.

· · ·

Outstanding among the securities of Harris, Forbes & Co. clients traded on leading exchanges is Cities Service common. The stock is the despair and the hope of hundreds of thousands of small investors who bought it during the gold days of 1929 not, however, at the solicitation of Harris, Forbes, whose connection with the company has had to do only with the sale of bonds. Last October it crashed from its peak of $68.50 to $20 a share. Working against heavy odds, it climbed back half the distance this year, only to be driven down again and to flutter around in the middle twenties. This in spite of the growth of earnings at a pace that would have rocketed the stock a year ago. The company report showed earnings of $1.34 on the common. Quite plainly the stock is still earning a much smaller percentage on its market price than are most stocks; but on the other hand it is growing rapidly.

Associated Gas & Electric is another example of the sluggish response of small investors nowadays to increasing earnings for volatile public utility shares. Although for the year ending with last May the system more than doubled its surplus after charges, the stock hangs around the lowest levels of 1929-30.

Northern States Power and Central Public Service early in July were selling around half their high price of 1929. Floating supply of the latter has been reduced by acquisition of more than a quarter interest by Public Utility Holding Corporation, the Harris Forbes-United Founders venture which has been making extensive foreign purchases this year. Public Utility Holding stock, selling around $15 a share last month, showed a depreciation of nearly 50 per cent from its earlier high.

· · ·

Sports stocks never have shared the popularity of the so-called amusement shares—the stocks of theatrical, radio, and graphophone enterprises. Wall Street's interest in sports has been abundant and of a practical kind, but it has never been called upon to do much financing for the purveyors of sports equipment. In Spalding the Stock Exchange has both a common and a preferred stock of the principal maker and distributor of sporting goods and equipment. There is little interest in the preferred, which is being steadily retired through operation of the sinking fund.

Even less attention is attracted to the common stock. It was brought over to the Big Board from the Curb Exchange last year, where it had sold at $300 a share before its five for one split. On the Inactive Post the Spalding shares are more unobtrusive than most of their playmates there, which usually means a narrow price range. Sometimes a week or more goes by without a sale of the stock. Paying a $2.00 dividend, Spalding common is selling on a yield basis which is equivalent to branding it as an unseasoned issue but one on which the payment is considered fairly safe.

· · ·

Skepticism of the investment merits of a cosmetic company helped to lop off more than sixty points from the price of Coty, Inc., in the past eighteen months. It fell that much, in fact, last year, but after rallying from $18 to $33 a share the stock dropped close to $15 a share on omission of the dividend before the decline could be checked. Lehman Corporation, which might be allowed an opinion on the stock's merits, owned 18,800 shares at the end of last December. Before June 30 of this year the corporation had sold 7,400 shares. However, the investment is still a large one. At the same time they took a block of Colgate-Palmolive-Peet, manufacturer of more than $100,000,000 worth of soaps and cosmetics annually. But for the market break last year, Colgate might by this time have been lodged with other bedfellows, including Hershey Chocolate, in a new foods and soaps holding company, under the auspices of the National City Bank.

Beauty stocks, which formerly were given a much less euphemistic cognomen by ribald stock market traders, always have changed their color often. Vivadou in former years was a great favorite with the quick firing boys around the brokerage houses, and the Morgan interest in Procter & Gamble was the source of many radically unsound rumors.

· · ·

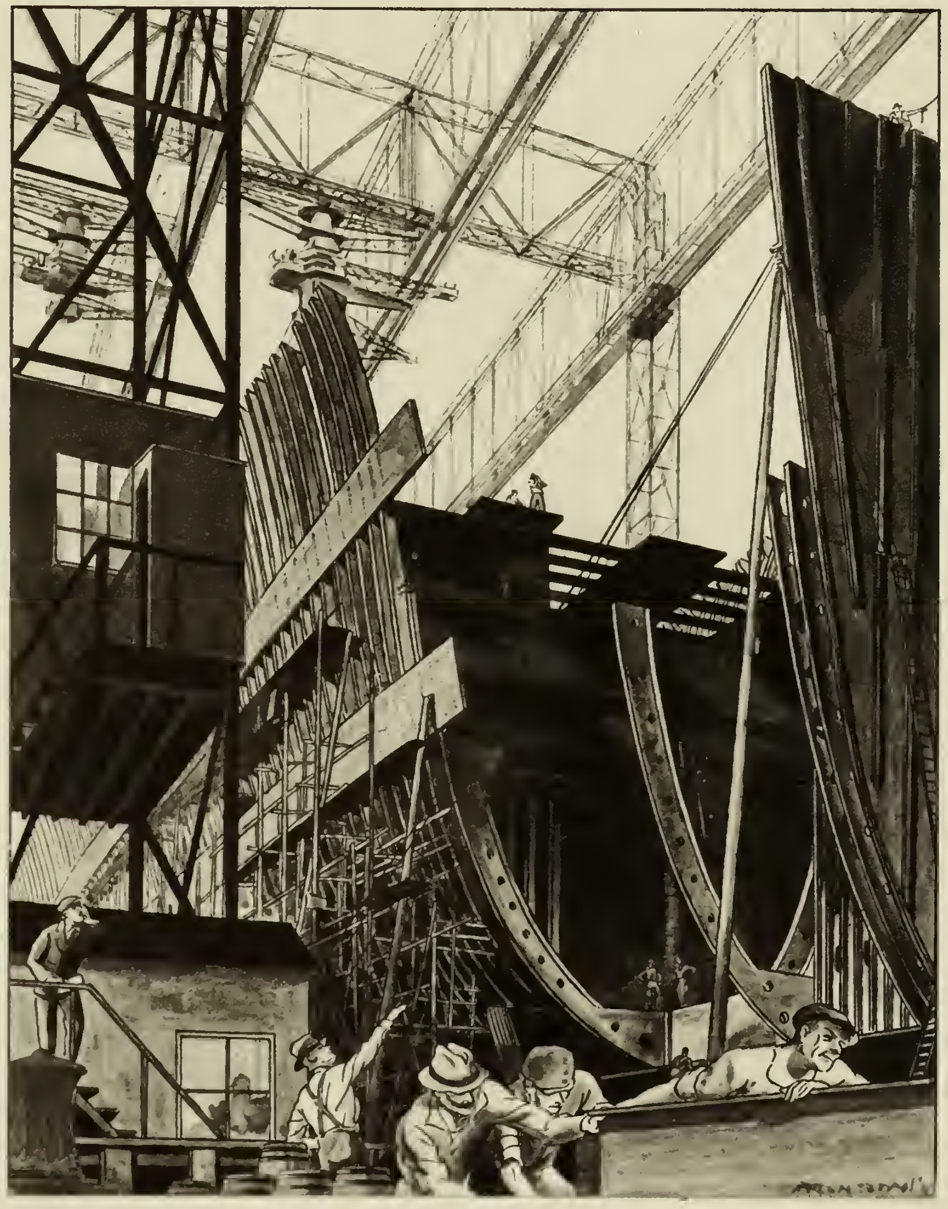
Stocks of companies which build, finance the builders, supply them with materials, and play the rôle of landlord have uniformly participated in the 1930 bear market. Where 1929 inflation was extreme (witness, Johns-Manville at $242.75 a share), the 1930 deflation has been especially severe (ibid, around $75). American Radiator & Standard Sanitary brings less than half its best price of 1929. It has been mighty seldom in the past few decades that American Radiator could be bought to yield as much as 6 per cent. Its chairman, Clarence M. Woolley, has been too shrewd a manager for that. United States Realty & Improvement, also at about half its best of last year, has been selling to yield more than 10 per cent, the market reflecting some doubt of the safety of the $5.00 annual dividend. Chairman Harry S. Black has built up Realty to the position of the world's largest landlord—with the single exception of the Duke of Sutherland. Many an imposing building stands to the credit of the construction subsidiary, the Fuller Company, which built and formerly owned the famous Flatiron Building. Realty is at once builder and owner, some of its most valuable properties being hotels, such as the Plaza and the Savoy-Plaza. The stock has been affected by the weakness in realty values in New York as well as by a poor stock market, but most of its properties were acquired in the pre-inflation era.

Otis Elevator has fared about as well as any stock in the building industry, although it too has been subjected to revaluation. Rising earnings have helped, the first quarter showing a gain of about 4 per cent, with an increase in earnings per share from eighty cents to eighty-three cents. Even so, a price of $60 would be the equivalent of only $240 on the old stock, which reached a high of $450 last year.

In Equitable Office Building Corporation is one of the best illustrations of the importance of location and design for insuring realty profits. Management plays its part, but because of the other factors Equitable has been able to raise rents and keep virtually a full house in spite of the lure of the new skyscrapers in the financial district. The price range last year was only ten points, in spite of the general disaster. During most of this year the stock has swung five to ten points above the 1929 high.

BUILDERS of Ships

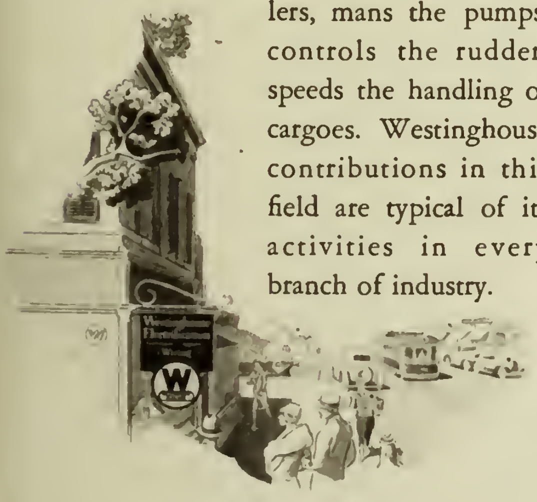
ARE BUILDERS OF TRADE



BURLINGAME
PUBLIC
LIB.

Every new ship that glides majestically down its ways into deep water is a symbol of growing economic power for the nation whose flag it flies. Not by accident have the great seafaring peoples of history dominated the commerce of their worlds. Throughout the eras of man-power, sail and steam, the romance of the sea has been definitely linked with the broader romance of business.

As business methods have progressed with the times, so also has shipping. Today the finest marine service depends upon electricity for much of its modern efficiency. In passenger liners and freighters, tugs, river towboats, submarines and battleships, Westinghouse electrical equipment drives the propellers, mans the pumps, controls the rudder, speeds the handling of cargoes. Westinghouse contributions in this field are typical of its activities in every branch of industry.



Tune in the Westinghouse Salute over WJZ and the coast-to-coast network, every Tuesday evening

Westinghouse

Arden

[*Continued from page 41*]

National cosmeticists have seized on the salon as a means to boost their trade. The Dorothy Gray Salon and Products are owned by the great commercial druggists Lehn & Fink, who also control Pebeco tooth paste and Hinds three creams. In the Gray salon is a free make-up clinic. Any lady wandering in from the street may enter a spick-and-span laboratory filled with test tubes and jars of cosmetics and be made up by Gray experts. Conducted under the most exacting light conditions, this process is very successful in convincing prospective clients that make-up should be individually adapted. Coty, as we have mentioned, owns the Marie Earle salons, conservative, long-established specialists in oil treatments for dry skins. Primrose House, which enjoyed a period of high favor under the nominal leadership of Mrs. Gouverneur Morris, paled but is now being revivified. With Arden, Gray, and Rubinstein, it is one of the Big Four. Such houses are well established; they are in the tradition; their deeds may be profitable but they are scarcely challenging. If Elizabeth Arden fears for her preëminence at all, it is not of these she thinks. But she may consider the Alexandra de Markoff line, which is making the same highfaluting appeal with cosmetics as Matchabelli does with his perfumes. And there is Kathleen Mary Quinlan, Pond's protegé, whose forte is treatments to soothe and beautify tired eyes.

But a gathering of all the names thus far presented, from Arden the elegant to Seligman & Latz the multifarious, would not do justice to the salon field. The first of the great ladies of the salons was Helena Rubinstein. And though the Rubinstein salons have passed their days of great chic, the Rubinstein business is still most probably the biggest of its kind. Delicately matched cosmetics are the specialty; the exercise fetish is not emphasized as at Arden's. With her Pasteurized Face Cream, Valaze Beautifying Skin Food, and Valaze Skin Toning Lotion, Mme. Rubinstein invites practically the same facial treatment as Arden. But she offers her advice indiscriminately, not seeking selected outlets. Her demonstrators have appeared in such socially dubious locations as the New Jersey State Convention of School Teachers (chalk dust is bad for the complexion) and the Marie Antoinette (ladies') Room of the Paramount Theatre in New York. This cosmetics for the masses policy netted Rubinstein a profit equal to if not exceeding Arden's. Several years ago she sold out to Wall Street for several millions; just after last fall's panic she is said to have bought back a controlling interest at a price far beneath value. One of seven Russian sisters from Cracow, she has lived and prospered in many lands. Buxom, swarthy, addicted to smartly exotic dress, she has a husband named Edward Titus, who now sells books in a stall by the Seine.

Potpourri

The hair and the cuticle. New skins for old. Apparatus for Adonis, and sundry other themes.

NO ONE has yet made much money from the beautification of men. But there are many attempts and many expectations. Perhaps 15 per cent of the clientele of the leading hair cultivators are masculine (men like to have their heads rubbed). Guerlain gets $11 for a toilet water called *Bouquet de Faunes*. Houbigant markets a similar lotion, *Fougère Royal*, and Pinaud does well with *Lilac Vegetal*. D'Orsay makes *Duo D'Orsay*, intended for use by both man and wife. Armand markets the various *Florian* products. Coty proposes an elaborate men's line. More and more barber shops are giving facial massages which resemble in process and effect the delicately scented feminine rituals. Dorb the Chemist, chain druggists of New York, report that more than 20 per cent of their toiletries, including vanishing creams and powders, are bought by men. Throughout the beauty business the tendency is to believe that men's fears of effeminacy are being overcome. The increasing sale of men's cosmetics is attributed to the growing emphasis on appearance in the business world.

• • •

The firm of Northam Warren is the unquestioned leader in the nail polishing business. It sells the leading cheap line—Cutex (thirty-five cents), the leading medium line—Glazo (fifty cents), and the leading quality line—Peggy Sage ($1.25). It directs plump, hearty, colloquial Peggy Sage as she directs her New York cuticle salon. She it was who invented the pinkish, glistening finger nail and popularized it on the gracile fingers of Lady Duff-Gordon. On the theory that nail and costume colors should match, she now offers nail polishes in various tones, as illustrated in these pages. But this radical artificiality, at cross-currents with the prevailing natural mode, will probably never be nationally successful.

• • •

Everyone knows of Madame Walker of New York who made a fortune with an invention to remove the kinks from negroid hair. Her success is symbolic of the fact that negresses seek to minimize their racial characteristics. They will not buy cosmetics especially adapted to dark skins; they use the white woman's blue evening powder in the daytime. They buy skin bleach by the barrel. According to *Aromatics*, the cosmetic best-sellers to negroes are Lux, Golden Peacock Bleach Crême, Pluko Hair Dressing, Nadinola Bleaching Cream, Black and White Beauty Soap, Madame Walker's Beauty Soap, Dr. Palmer's Beauty Soap, K.K.K. (Kongolene Knocks Kinks), and Washington Belle Skin Victory. One glance at the nomenclature of most of these products should convince anyone that most of the business is racial. Although there are some 12,000,000 negroes in the United States, the big national cosmeticists have not entered this field. Fear and false pride prevent them. *Aromatics* tells of a Chicago Black Belt drug store whose best-selling soap is made by a St. Louis manufacturer, white. Because of the soap-maker's refusal to deal openly with the negro trade, the druggists buy the soap covertly through a third party.

• • •

Many are the salves and clays which purport to improve skin condition by some sort of organic stimulation. Favorite in the past was Mineralava. Most conspicuous today, Amor Skin reputedly contains the skin hormones of dasypodia, or tortoises, which it supposedly imparts to the skin of the user. Enough Amor Skin for three months' treatment costs $16.50 ($25 for double strength). It sells well. Velo-derma, the newest, is promising commercially. Advertised with a great deal of scientific patois, all these preparations are questioned by disinterested scientists.

• • •

No preparation has ever been discovered that will grow hair on a billiard ball, or, for that matter, anywhere very successfully where it is not. Nor has any completely satisfactory depilatory (except the expensive electrolysis) ever been developed. Yet hair cultivation is a thriving trade. One can judge for one's self how uncertain are its principles by a comparison of the leading cultivators. The three great names in the expensive trade are Frances Fox, Ogilvie Sisters, and Martha Matilda Harper, all of whom own or market through nationwide chains as well as through department and drug stores. The Ogilvies and Harper advocate brushing; Fox is sure that brushing destroys the hair. The Ogilvies and Harper believe in only infrequent shampooing—perhaps once a month with treatments in between; Fox declares that hair should be shampooed once a week and left alone between whiles except for a coarse toothed comb and ointments on the night before the shampoo, or more frequently, if the condition of the hair warrants it. Harper

When competition grows keen
IMPROVE your PRODUCT
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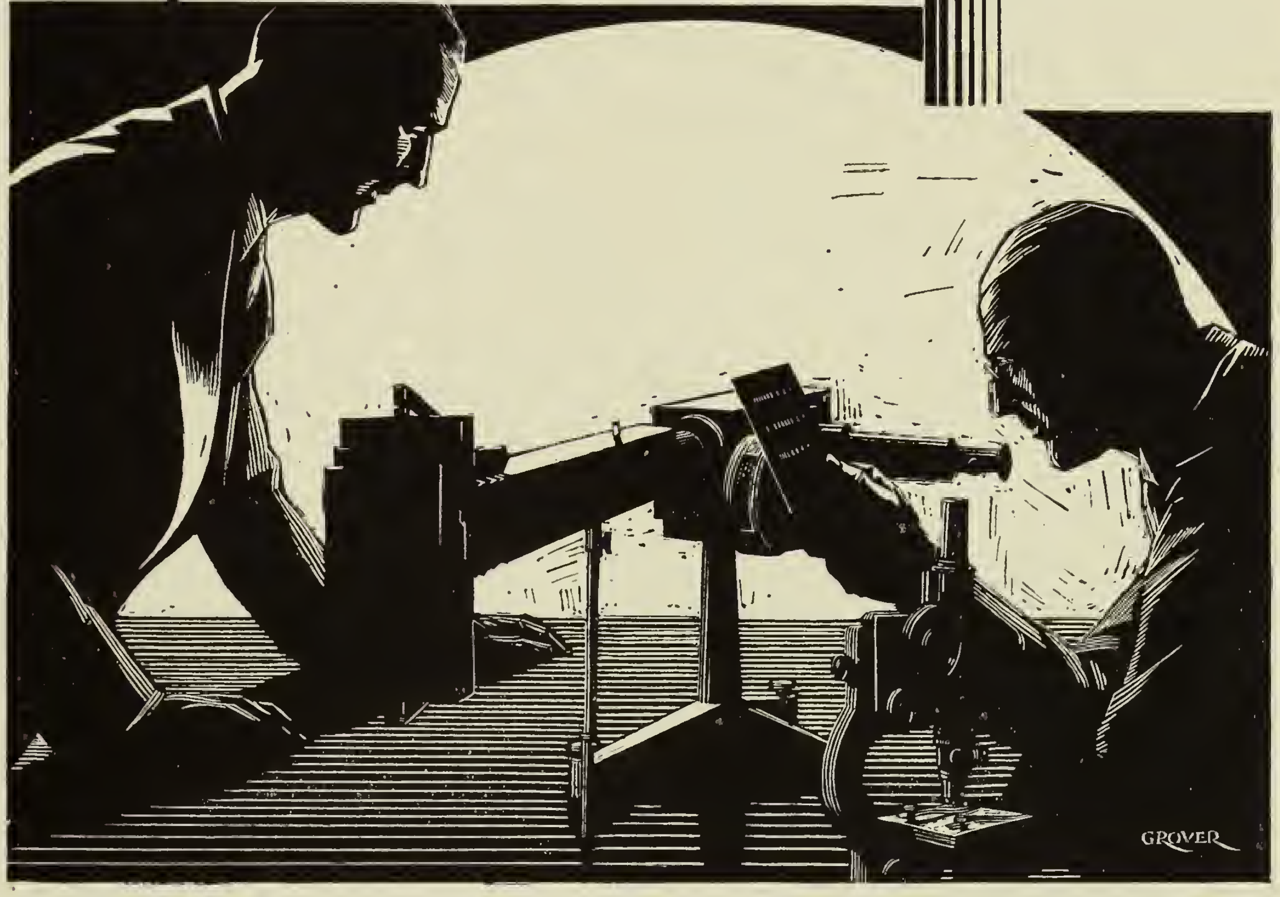

SAGGING sales warn the alert Executive that a careful checkup on product and manufacturing process is imperative. There can be no delay. The keen edge of competition quickly eliminates products not of a uniformly high grade.

Preparation for the return of prosperity necessitates the increased use of Bausch & Lomb Optical Control Instruments. Precision laboratory and manufacturing equipment become an urgent need rather than an ideal theory. The unaided human eye is no longer judge of quality of product and accuracy of manufacture.

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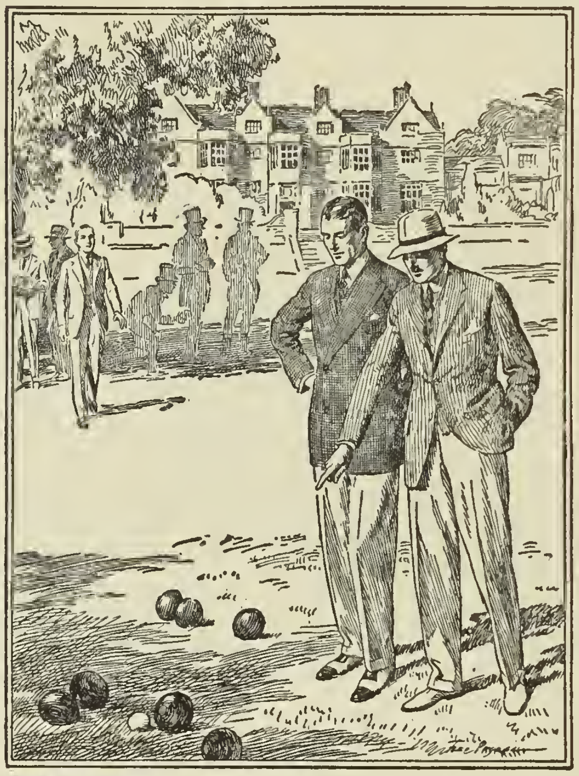

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1818 AND TO-DAY

Clothes & Accessories
for
Midsummer

Send for "A Wardrobe for
LAWN TENNIS & YACHTING"

BRANCH STORES
BOSTON
NEWBURY CORNER OF BERKELEY STREET
NEWPORT PALM BEACH

praises "dry" shampoos (powder shaken in and combed out); Fox and the Ogilvies are definitely opposed to them.

The biggest name of the trio is Martha Matilda Harper. An elderly Christian Scientist of Rochester, New York, she began her work forty-two years ago with a procedure that was revolutionary. Instead of forcing her clients to bend forward over a wash basin, their faces trickling, their eyes soapy, she tipped them backward and kept them comfortable while she washed their hair. More than 400 shops now use her method and products. The buxom founder still trudges to work every morning. Most of the Harper profit is made on lotions and tonics.

• • •

It is estimated that the citizens of the United States dyed their hair 40,000,000 times last year. The annual business of some individual firms approaches $3,500,000.

There are three principal types of hair dye. Vegetable extracts, oldest and absolutely harmless to the scalp, coat the hair and do not color the cells. Most of them are in the reddish category—henna, reng, tea extracts, wood extracts (logwood, walnut, et al). Metallic salts dyes, producing any color, but best in light and medium shades, include silver nitrate, slightly harmful to some types; lead salts, gravely toxic and forbidden by law in civilized countries; and the little-used iron sulphate. These dyes oxidize the hair on its surface. The synthetic dyes, penetrating, oxidizing, are the most common commercially. Two of the most familiar are para-phenylenediamine, very toxic, and paratoluenediamine, which may be de-toxicated, rendered harmless to almost everyone. The susceptibility of an individual to paratoluenediamine may be tested by painting part of the skin behind the ear with the dye and covering it with collodion; if a swelling occurs the person should not use the dye. If a person is not susceptible, these dyes produce the best results.

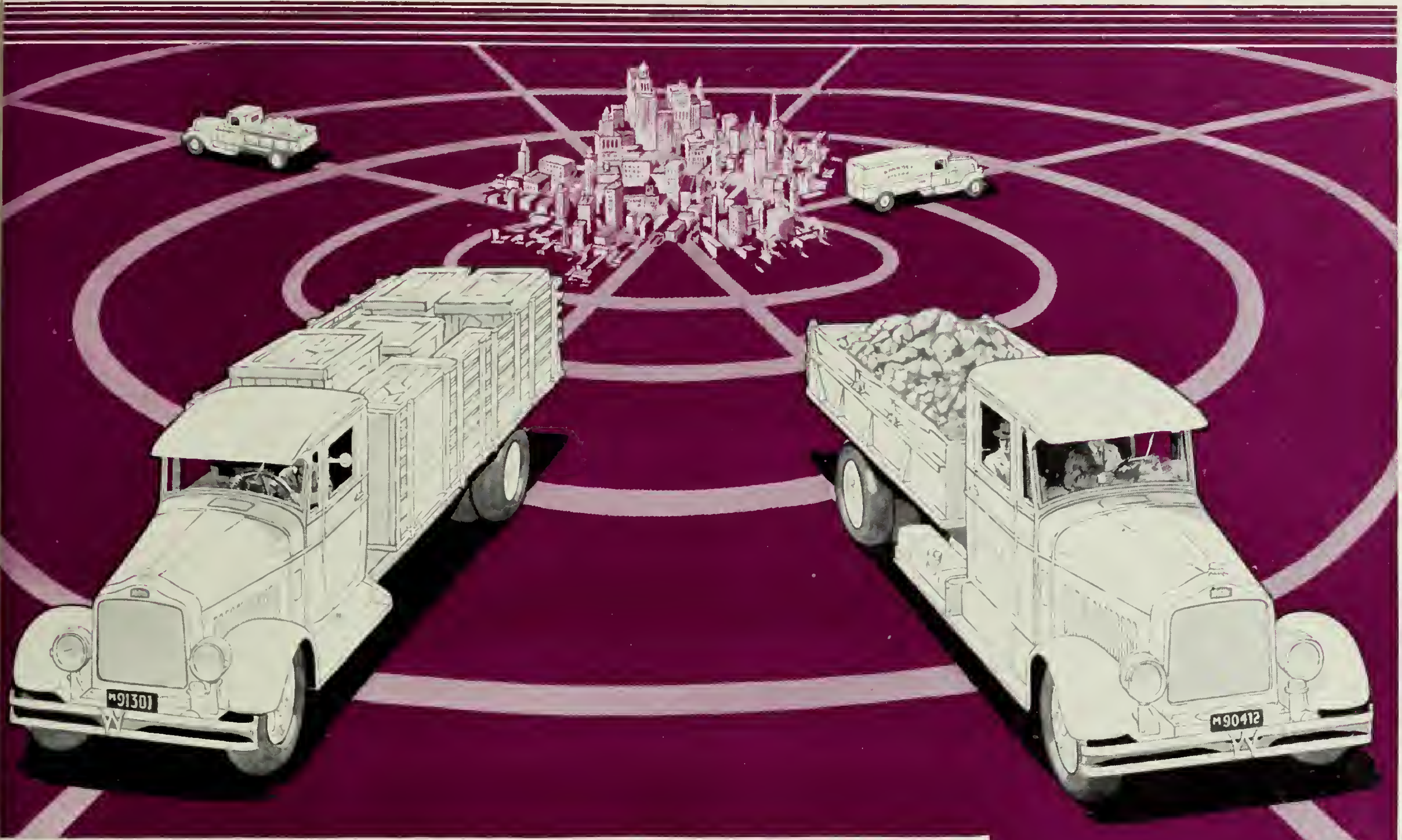
• • •

In bobbed-headed time, hair dressing devolves mainly upon the permanent waver. As he bakes his curves into the hair, he is creating whorls and glints and he later "sets" the wave—fixes its sculptural character—by water or finger waving. Most women require permanents twice a year. The process takes two to three hours, costs from $10 to $40. Locks of hair are wound around metal rods, which are then covered with heat-conveying caps. The winding takes hours; the heating only a few minutes. Although asbestos insulates the head from the hot rods, waving is apt to be an uncomfortable process. Thus a successful waver is he who not only sculptures the hair well, but preserves the comfort of the client.

Permanent waving thus depends mainly on operators rather than machines, which have always been much alike. Recently, however, the Nestle-LeMur Company developed the Nestle Triplex which eliminates the heat-conveying caps, provides heat through the curling rods themselves. Much lighter on the client's head, this apparatus may be plugged into a convenient electric socket, is designed for mobility. With the Triplex, Nestle-LeMur has permanent-waved a flagpole sitter on top of the Paramount Theatre in St. Louis. With 25,000 shops using its preparations, Nestle-LeMur's net income last year approximated $900,000. Eugène, one of its most conspicuous rivals, markets to the "smart" trade a more expensive machine.

• • •

Actresses have to have good complexions. But even if the average woman with an ugly, dry skin led an actress' life for a few months, her complexion would probably be unusual. Merely in the process of putting on and taking off theatrical make-up, she would subject her face to a vigorous cleansing and massage. On matinee days this might happen six times. And for the duration of the drama her grease-painted face would be splendidly lubricated with a mask of oil. Hence the claims of theatrical cosmeticists that their products contain the "beauty secrets of the stage" are somewhat exaggerated. Dumb-bells are undoubtedly strengthening, but only if one uses them. The chief theatrical cosmeticists who sell wide varieties of materials for non-professional use are Stein of New York, principal purveyor to the American legitimate stage, Max Factor of Hollywood, cosmeticist extraordinary to the cinema world, and Leichner of Berlin, Paris, and Vienna, oldest (1853) and perhaps most famous name in the business.



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In the new, six-cylinder, heavy duty, Model 51 AS, White again demonstrates its ability to maintain and increase its leadership in every field of motor transportation.

The Model 51 AS is rugged, oversize and White-built throughout. It is designed for both city and inter-city hauling with extra power for steep grades and rough going, and higher average speeds and quick acceleration in heavy city traffic.

Where the margin of profit depends on faster schedules, regularity and low operating and maintenance cost over a long period of years, the new White Model 51 AS assures the operator the maximum return on his truck investment.

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EQUIPMENT—Front fenders, dash and cowl with ventilator. Electric horn; headlights with dimmer control. Instrument board light; hood; one spare rim; toe board; running boards; frame splashers. Full set of tools, including jack.

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A COMPLETE LINE OF FOUR AND SIX CYLINDER

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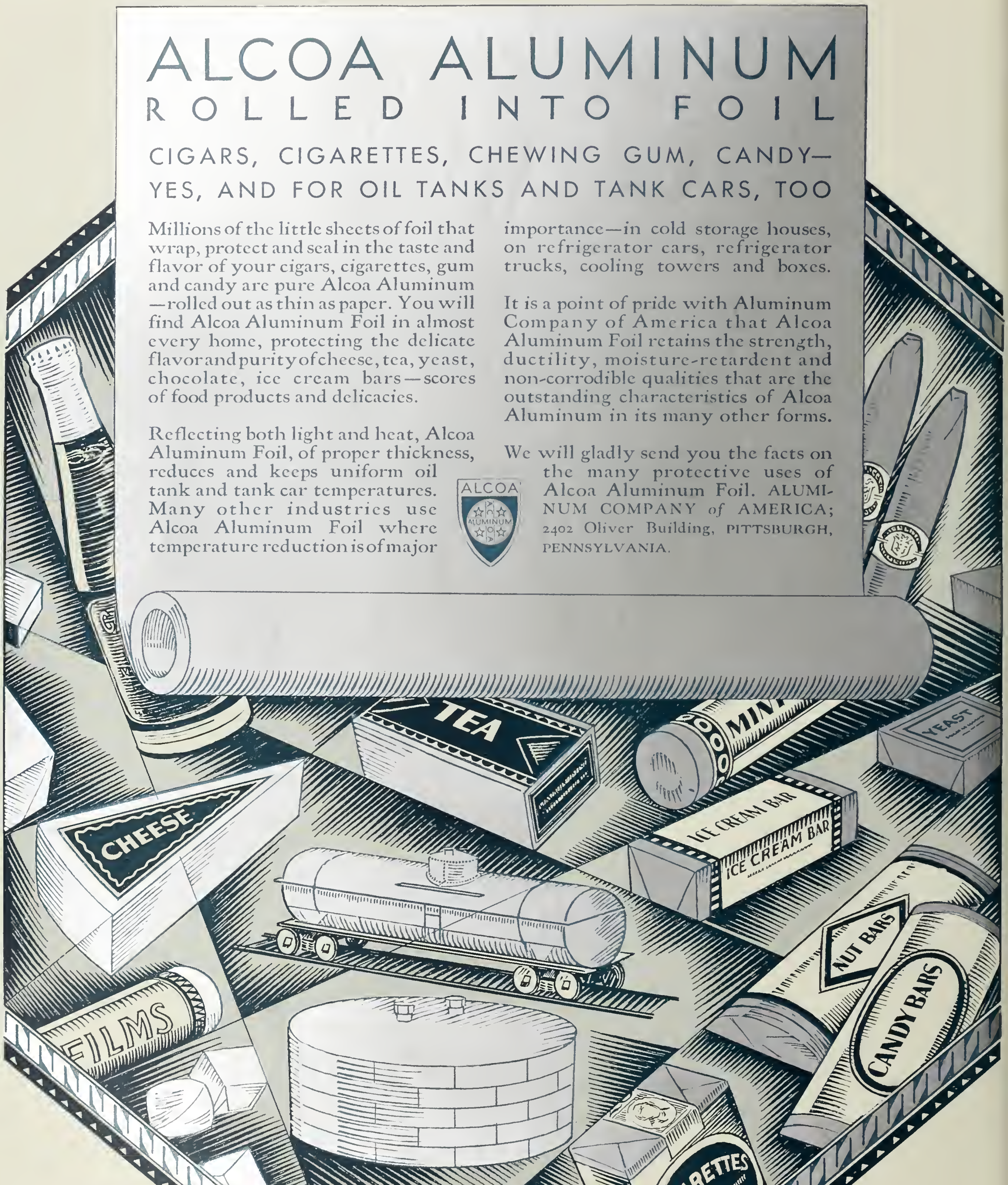

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M. Coty, Mr. Levy, Beauty's Big Business Men—*Continued*

European associates about $4,100,000 on the nose and $12,000,000 more in annual installments of $4,000,000 on October 1 of 1930, 1931, and 1932, making a total of $16,100,000. For this the Coty-American was to get about 65 per cent of the stock in the five Coty companies of Europe, which, with what it already owned, gave it about 80 per cent. In view of the fact that the interest acquired in the European companies was earning only some $1,200,000 per annum, this transaction cannot now be considered conservative in the light of subsequent events. Coty-American paid M. Coty about 13½ times earnings. This—so different from 1925—was entirely in line with August, 1929, financial psychology. For at that time the original $37 stock was selling at the equivalent of $240 (18 times their current earnings), and our happy original investor had a profit of some 550 per cent in addition to his handsome dividends. Such being the case, he was delighted to buy more stock, and with the money raised by an offering of additional stock, Coty-American paid its first installment of $4,100,000.

Then came the crash. Coty dropped from the aforementioned $240 to the equivalent of $108 on December 31, 1929. Obviously no more stock should be sold. So Coty-American decided in June to pass its dividends in order to pay its next installment of $4,000,000 out of its current earnings. And, indeed, these earnings have continued most satisfactory and, although somewhat reduced, are apparently much less subject to world depression than one might suppose. As M. Coty has said, "We are dealing in necessities." It may be some time before the price paid for the European properties will be justified in the light of 1930 valuations. But while the 1925 investor in Coty-American might wish that it had waited a while to buy the European concerns, he has really nothing to complain about. His original $3,700 plus $1,530 for additional stock (his share of the first payment for the European companies) had a value of $9,000 at the first of July, 1930. Meanwhile he may have the patriotic satisfaction of sharing in the creation of world business.

Courtesy of Houbigant

UNDER M. FERNAND JAVAL, THE VENERABLE HOUSE OF HOUBIGANT CARRIES ON, RIVALING THE GREAT COTY

While a feeling of patriotism may have to suffice in lieu of cash until this foreign deal is permanently financed, the final settlement of Coty cash problems may be hastened through the exercise of options now held by bankers on the stock of the foreign subsidiaries. These options may become attractive in the near future if the history of Coty-American under American control is repeated in the case of its newly acquired European companies. The cash received by the companies from the bankers who thus exercise their options to buy stock would hasten the resumption of dividends for Coty-American stockholders.

Almost all the foreign earnings of Coty are made by the French company. This means that what Coty-American bought was French earnings plus the right of extending for its own benefit Coty goodwill and reputation all over Europe and South America. Coty-Americanization of the foreign plants would seem to be in order from Mr. Levy and his able collaborator, Joseph Francis Scanlan. But whatever their plans, they indubitably intend to make Coty-American stockholders rejoice again.

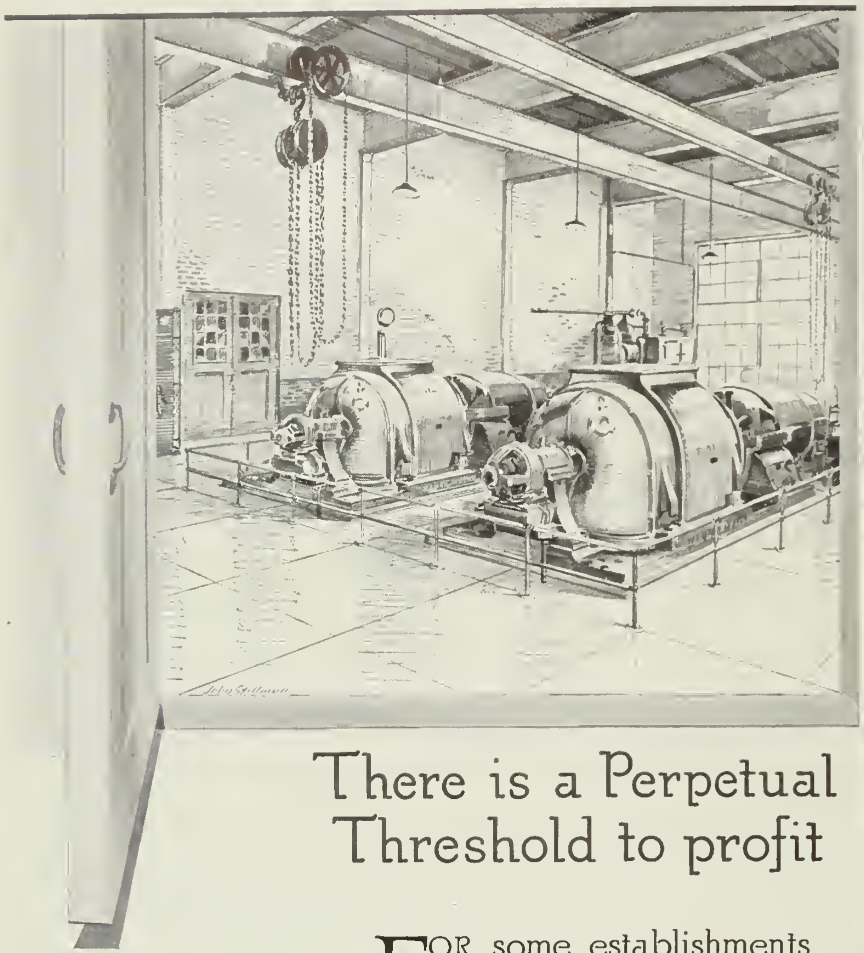
And manifestly this is also greatly satisfying to Mr. Levy. When he is in New York, he may be found, if at all, in a sunny office adjoining a quiet, austere reception hall decorated with perfume bottles in show cases. Mr. Levy is reputed to have been born in the shadow of the great Cathedral of Rheims, but there is nothing Gothic about him. A great, bulging, swarthy man, he is unmistakably a Mediterranean, the gracious, witty, but inscrutable bashaw of a cosmetic empire. He invariably has flowers in his office and a flower in the lapel of his capacious, ill-fitting suit. His politeness verges toward the mechanical, but always remains on the side of charm. He has obviously eaten well and with relish. Doubtless he will shortly do so again. But this, like all information about Mr. Levy's private life and private business, is supposititious. He is a driving, relentless business man; the profession testifies to that. But he dislikes direct questions as to his private doings. One hears that his father, a manufacturer of powder puffs, once undertook to make and market a line of perfumes not unlike that which his son is now engaged in selling to the tune of millions. The scheme failed. Had it been entrusted to Levy Jr., its history would almost certainly have been otherwise.

Coty owns the Marie Earle Salons which give the same style of expensive, personal beauty treatment as Elizabeth Arden and Helena Rubinstein. Coty perfumes are inexpensive, but those made by the Coty subsidiary, Rallet, and largely sold under the names of famous couturiers, are of the first expense rank and are unsurpassed in the esteem of smart women. A famous couturier's perfume made by Rallet and sold for $12 an ounce is merely a more persistent version of Coty's newest fragrance, *L'Aimant*, which sells for $5 an ounce.

Offering everything cosmetically, and perfumes besides, Coty has few competitors in a strictly business sense. There is Houbigant, which, although it has an eleven-story building in New York, still has its main office in France. Its line is extensive, its prices moderate, its distribution great, its *Quelques Fleurs* one of the oldest and most popular of perfumes. And there is the American house of Hudnut, now owned by two gentlemen named Pfeiffer, with three of its factories in New York, Toronto, and Paris respectively turning out a tremendous line of low-priced cosmetics and scents, *Le Début* and *Du Barry* among others.

Tony Van Horn

PEGGY SAGE, MOST LUXURIOUS MANICURIST IN THE LAND: AT A HINT, HER MINIONS WILL BRONZE YOUR FINGERNAILS



There is a Perpetual Threshold to profit

FOR some establishments in every field of industry the door to profitable operation seems ever open. Actually it is kept open.

The principal executives take frequent counsel with the Engineer that they may have constantly a vista of their productive equipment, as a guide to the replacing of machines that are in the shadow of obsolescence with better ones, and adjusting to these, new methods that compound the improvement.

J. E. SIRRINE & COMPANY
Engineers
Greenville South Carolina

As a big cosmetic house, perfume or no perfume, Coty naturally competes with other large scale cosmeticists who have never bothered much with scents. Amiran of New York and Paris sells beautifying materials which are advertised as having been made according to the formulas of the Russian imperial family, as provided by Grand Duchess Marie. They are costly, as are those marketed in Paris by Lina Cavalieri, famous beauty, erstwhile singer and cinema actress. In direct contrast to these orchidaceous ventures is The Armand Company, Inc., of Des Moines, Iowa, which began with a fifty-cent face powder and still sells it, together with a full cosmetic line, through some 40,000 retailers in the United States and Europe. Hundreds of these retailers know Carl Weeks, president of Armand, personally. The son of an Iowa farmer and now the father of four sons, he lives on a bluff in Des Moines in a great house filled with imported bibelots. He wears gaudy shirts, is hale and friendly, and one of the most popular figures in the beauty business. Mr. Weeks' organization puts on very little dog, but it sells lots of good cosmetics at anybody's prices. Another jovial cosmeticist who does about the same is Joseph J. Quinn, American vice president of the French house of Pinaud, indelibly associated in the American mind with the finger-flicking Gallic barber of the car cards. The house of Pinaud is 150 years old and is owned by George and Henry Klotz of Paris, but it is Mr. Quinn who, by endeavors analogous to those of Coty's Mr. Levy, has energized the business. Pinaud sells all sorts of preparations, but is now stressing a single cream which supposedly fulfills all the functions of the various creams involved in such a facial regimen as that of Arden. Thus do one firm's profitable complexities stimulate another's profitable simplicities. Neither Armand nor Pinaud operates beauty salons.

But if Coty has few competitors as a big cosmetic and perfume house, it has plenty of rival *parfumeurs*. Face powders, cold creams, and so forth are all more or less alike. Their manufacturers can only be compared commercially. But we have already alluded to perfumery as an art, and we should do that art no more justice if we limited our discussion to Coty than we should the art of music if we talked only of Tschaikowsky. Among the oldest houses in Paris is Guerlain, where the Prince of Wales trades ("He never fails to carry away a 'pink package' of rather large proportions"), and where his illustrious grandfather's baptismal scents were prepared. Guerlain buys half of the 400 pounds of perfect jasmine flowers grown each year, markets in France only through the leading hairdresser in each city. Its famous *L'Heure Bleu* retails for $5 an ounce; its *Shalimar* costs $25 for two and one-half ounces. The House of Guerlain is 102 years old and is now in charge of the fourth Guerlain generation. Caron is only twenty-five years old, yet in that time it has produced two famous fragrances, enough for any one establishment. *Narcisse Noir*, heavy, musk-laden, leaped to popularity almost literally over night when Gloria Swanson used its flower-shaped bottle in a love scene. Caron's *Nuit de Noel*, one of the great bouquet perfumes, retails for about $15 an ounce.

Ybry makes the heaviest, most oriental and costliest scents (a sample of their newest, *Palo Alto*, at $33 an ounce, they plan to send to Mrs. Hoover), and Yardley is the outstanding English cosmetic and perfumery house, featuring floral *odeurs* and creams, soaps and powders tinctured with English lavender. Corday (*Toujours Moi*, *Orchidée Bleue*), Lenthéric (a Squibb interest enjoying smart favor), and Roger & Gallet (*Pavots d'Argent* and some 163 other odors) are all reputable perfumers. Nips is a clever firm which buys Coty and Houbigant perfumes in bulk at wholesale prices, then rebottles them in tiny flacons (enough scent in each for one application) and sells them in vending machines and

P. & A.

ELECTRIC REJUVENATING: ONE OF BEAUTY'S MASKS

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HANDLING MERCHANDISE CONTAINERS. Fast freight service today encourages low inventories. Merchants concentrate on fast-moving lines. Hence, greater selling strategy on the part of manufacturers is now required. A thorough knowledge of such strategy is shown in the advertising with which the J. Walter Thompson Company speeds widely varying products to the ultimate consumer.

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says HARRY E. WARD

HARRY E. WARD, *President of the* IRVING TRUST COMPANY

"A BROAD view of the industrial problem," he continues, "can regard production as complete only when the product has reached its final destination. Industry has mastered straight-line production within the factory. The next task of its leaders is to extend that straight line to the ultimate consumer. Business increasingly requires managerial talent with a creative grasp of distribution."

• • •

Mr. Ward's statement summarizes conditions with which the J. Walter Thompson Company has been in intimate daily contact for many years. This company has had the experience of working with business executives of the type Mr. Ward describes.

Collaborating with them in charting, following and sometimes in changing the complex channels of distribution, the J. Walter Thompson Company has served as advisor in the planning and execution of market strategy as it bears upon the ultimate consumer.

There are less than 9,000 packaged items in this modern drug store. An old-fashioned competitor nearby carries more than 14,000. Neither sentiment nor special attention sways this up-to-date storekeeper. He carries 25 lines that give him less than 20% profit. He has recently refused to handle 30 that offer him more than 100%; yet he does three times the business of his competitor. His customers determine his stock. The J. Walter Thompson Company has been notably successful in influencing the purchases of his customers.

In the course of this work, the J. Walter Thompson Company has not only acquired a wide fund of experience, but has also assembled a staff alert to the latest developments in the various specialized fields of modern merchandising.

Helped by this collaboration, many leading enterprises have maintained their position in existing markets and have penetrated new ones. The stabilizing influence thus secured has enabled them so to coördinate production and distribution that the two have in many cases become a single continuous process.

In this way the J. Walter Thompson Company is contributing its share to the solution of one of the most important problems which faces American business today.

Two folders, entitled "Selling at Home," and "Selling Abroad," have been prepared to show the scope of the service of the J. Walter Thompson Company.

These folders will be gladly sent to executives interested. Write to the New York Office.

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Will Well Repay Your *Faith* in a *Fine* Product

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HACKERCRAFT
AMERICA'S FASTEST SPEED BOATS

ten-cent stores. A dime buys four Nips; millions are made each year. There is no business connection with either Coty or Houbigant. Peculiarly enough, Nips will no longer bottle the heavily pedigreed Caron and Guerlain scents because there is more demand for the less pedigreed Coty and Houbigant. At the other end of the perfume scale from the slot-machine Nips are the perfumes of suave, great-domed Prince Georges Matchabelli, Russian exile and former Georgian minister to Rome. No better example can be given of the so-called "class appeal" for the so-called "snob sale." Having studied chemistry in Berlin, it is related that Prince Matchabelli sought a way out of his post-revolutionary penury by mixing perfumes in a cellar bathtub on Madison Avenue, New York City. His *Princess Norena*, *Duchess of York*, *Empress of India*, *Royal Gardenia*, *Ave Maria* and other scents, appearing in ornate bottles shaped like the crowns on the Matchabelli crest or in shining crystal pyramids, are now obtainable at about $10 an ounce in about eighty stores throughout the United States, each of which has been socially approved by the Prince. In the magazine *Modern Packaging* he has blandly admitted: "The whole secret of selling expensive perfumes is to suggest by their packages luxury and exclusiveness. This we have done through the use of bottles of unusual shape, decorated in color, boxes covered with gold and silver papers and lined with velvet, and the constant use of the coronet as a trade-mark."

General Motors of Games: Spalding

[*Continued from page 66*]

is approximately $100; colleges with less ample athletic treasuries may reduce the cost to about $75, and high schools go down to about $40. Here, for example, are the necessary items in the wardrobe of a Harvard, Yale, Princeton, Notre Dame, Pittsburgh, Stanford, or other Class A football man:

1 headguard	$8.00
1 practice jersey. . . .	7.00
1 game jersey	8.75
1 pair practice pants . .	6.75
1 " game pants . . .	7.50
1 " hip and kidney pads	7.50
1 " knee pads . . .	4.00
1 " shoulder pads . .	9.50
1 " practice shoes . .	11.85
1 " game shoes . . .	13.85
6 supporters	2.00
6 pairs socks	3.00
2 " practice hose . .	3.00
1 pair game hose . . .	1.50
1 side line pull over. . .	9.00
	$103.20

Considering that nearly every high school and college maintains teams in at least football, baseball, basketball, and track, and that Spalding relations with coaches and athletic managers the country over are extremely close, the Spalding institutional business is perhaps the bulwark of its prosperity. So professional, indeed, has been the Spalding relationship to sport that by comparison its cultivation of the general public has been, if not neglected, at least not nearly as strongly stressed. Within the last few years, however, the company has become much more interested in its string of retail outlets, and is also spending (with Young & Rubicam, able Manhattan advertising agency) some $600,000 a year. No sales shrinkage has been noticed by Spalding during the first half of the current year, depressed as that period has been in more basic industries. It is one of the odd factors in a depression, indeed, that the luxury with the low unit price seems to prosper rather than to decline; thus "entertainment" stocks for a long time were leaders in the sagging stock market and thus baseball attendance figures are running considerably ahead of their totals for 1929. Spalding appears to be, on the whole, an extremely prosperous organization. It holds the commanding position in its industry, and that industry itself is stable and assured. The future of Spalding would appear to be the future of sport. For rare is the manufacturer who has made with his market a union so binding, so permanent, so complete.

THE RETAILER RENEWS A QUAINT OLD CUSTOM . . .

WHEN Grandpa Robinson ran his general store, fifty years ago, he made it a point to know all the families that dealt with him. He had a cheery "Good morning" and a welcoming handshake for every customer or prospective customer who came inside the door. • The present head of the great Robinson store has 30,000 charge accounts and his annual sales amount to several million dollars. But the factor of good-will that built the business is just as potent as it ever was. That is why he writes a *personal letter* to every patron of the store at least once or twice a year. To the army of people who receive these letters "Bill" Robinson is not just a name but a person—known and trusted. • More and more retail establishments that have outgrown the possibility of flesh-and-blood contact between president and patron are using *executive letters* to bridge the gap. These letters are *personal* in every sense—typewritten and hand-signed on the stationery of the President's Office. In order that there may be no possibility of mistaking them for ordinary "form" letters, leading firms choose Coupon Bond as the flawless background for these messages of good-will. • Coupon Bond has established a national reputation as a business paper of supreme quality. Because it is made entirely of clean, new rags, it has a strength and beauty that no paper of inferior grade can possess. • On request we will gladly send you our portfolio, "The Modern Trend in Letterheads," as well as a new booklet, "The Executive Letter," which outlines the uses of this effective business tool. (In writing for them please use your business stationery.) • *Coupon Bond is but one paper in the Eagle-A Line of Bonds, Ledgers, Writings, Index Bristols, Offsets, Covers, Book Papers, Mimeograph and Manifold Papers—the* right *paper for every business purpose.*

AMERICAN WRITING PAPER COMPANY, INCORPORATED
HOLYOKE, MASSACHUSETTS

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RAG
QUALITY
COUPON BOND
MADE IN U.S.A.

EAGLE·A·PAPERS

A Personal Invitation to Hotel Hollenden

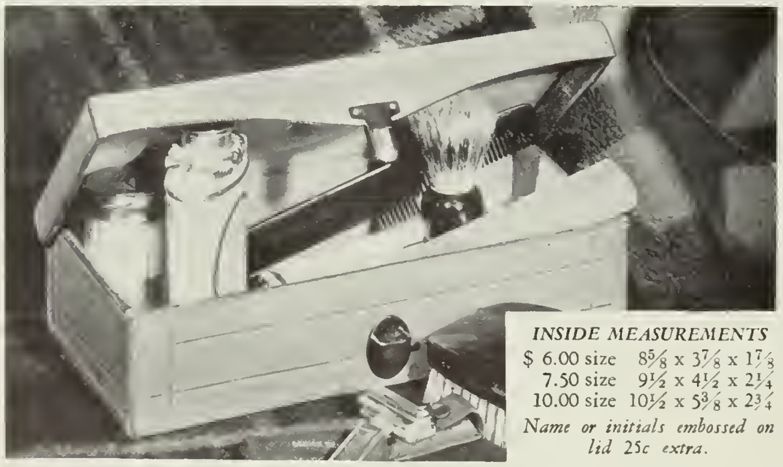
THE Hotel Hollenden is ideally located for the convenience of the visitor whether he is in Cleveland on business or pleasure. Within a block or two of the Hollenden will be found the leaders in practically every activity of the city. Just a block or two away are the theatres, the shopping centers, the banks, the Public Auditorium and the principal office buildings. Located right in the heart of things, the Hollenden has for decades served the requirements of the most discriminating visitors. Anything that is required of a good hotel may be found at the Hollenden. You are cordially invited to make the Hollenden your home when you are away from home. The Crystal Dining Room and the Hollenden Coffee Shop offer a variety of good eating places.

Sincerely yours,

Theo DeWitt
Vice Pres. & Gen. Mgr.

In Cleveland-it's The
HOLLENDEN
THEO. DE WITT.
Vice Pres. and Gen. Mgr.

New Idea in TOILET KITS



INSIDE MEASUREMENTS
$ 6.00 size 8⅝ x 3⅞ x 1⅞
7.50 size 9½ x 4½ x 2¼
10.00 size 10½ x 5⅜ x 2¾
Name or initials embossed on lid 25c extra.

A simple solid leather case No loops . . . No gadgets . . . No monkey business!

Just *toss* your toilet articles into this handsome solid-leather case . . . and there you are! No time lost in fussing with trick loops. No lengthy roll to take double space in crowded washrooms.

Made of extra thick solid leather, of the same superb quality which made Hamley Cowboy Saddles famous. Oak bark tanned—a long slow process that ripens the fibers and makes them improve with age.* A beautiful russet color which takes on a rich dark glow with passing years.

At exclusive shops, or postpaid direct from HAMLEY & COMPANY, *Saddlemakers since 1883*, 370 Court Street, Pendleton, Oregon.

*Every Hamley Kit has the Hamley Cowboy Saddle tooled on the bottom. Be sure you get the genuine Hamley Kit, made of Hamley quality leather, by insisting that this mark appear on the kit you buy.

The HAMLEY KIT
MADE LIKE A FINE COWBOY SADDLE OF GENUINE Solid Leather

The Turksib Is an Asiatic Monster

[*Continued from page 49*]

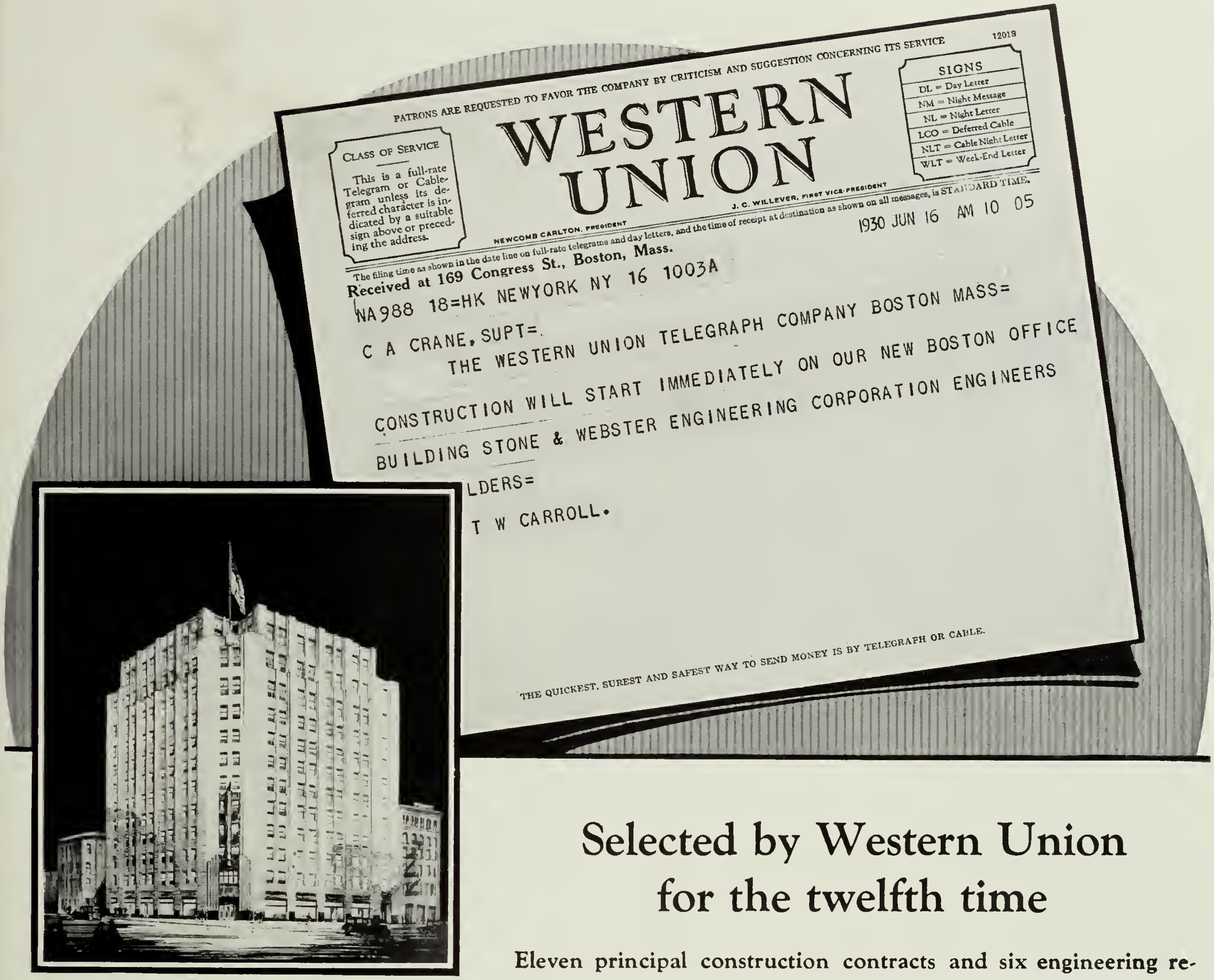
Cotton is the keynote of the Turksib, but there are other things that interest the Soviet. In Turkestan is a big part of the State's copper, zinc, and lead reserves. At the northern end of the Turksib is the Kuznetsk Basin, one of the biggest potential iron and coal districts in the Soviet Union. Turkestan and the steppes to the north have been cattle and sheep countries since the beginning of time. At one of the market towns government agents buy from 10,000 to 15,000 head of cattle daily. Much of the dried fruit eaten in Russia comes from Turkestan. Alma Ata, "Father of Apples," is the center of a large apple and grape district. The road opens up some 27,000,000 acres of virgin timberland, most of it up in the north. Rice grows so well along the southern line of the Turksib that the State Rice Trust has taken up huge acreages of land, so much, in fact, that the railroad has to fight for land for its shops and stations.

Our own Interstate Commerce Commission looks unfavorably on rail projects that threaten to change "existing routes and channels of trade." Not so the Soviet, or the Turksib would never have been built. It has disrupted the trade routes of all Central Asia. A most welcome disruption, however. Before its coming, trade between Tashkent, the chief city of Turkestan, and Novosibirsk, the capital of Siberia, had to take a hopelessly roundabout route by way of Samara (see map). A carload of raisins from vineyards of Turkestan had to travel over 2,500 miles to reach Novosibirsk. The Turksib cuts through a direct route between the two cities that is just half as long. More important, it has added the missing third side to a triangle of trade. Before this addition all trade between Turkestan and Siberia was carried on through a junction point many hundred miles west of both. The Turksib sets in motion a flow of trade between *three* points, instead of a mere exchange between two. Thus Siberia is able to send timber to Turkestan (via Turksib) to pay for cotton which Turkestan sends up to Russia (via Orenburg-Tashkent) to pay for textiles which Russia sends to Siberia (via Trans-Siberian).

When the Orenburg-Tashkent line was built in 1905, Europe, and especially England, trembled. Statesmen had nightmares of men and guns rumbling down from Moscow into the very heart of Turkestan, within a few hundred miles of the Indian border. The road was quite important economically, but it was vital strategically. It was built wholly by work battalions under the command of General Anenkov. Its station masters and other petty officials were old soldiers almost to a man. The Turksib, though its chief significance is economic, is not without strategic importance. For nearly its entire length it runs closely parallel to the borders of China and Mongolia. This latter is practically a Soviet protectorate, and China has long been a fertile field for Communist seed. The Turksib will stimulate Chinese-Russian trade, bind the two countries even closer together. A spur eastward into China itself is an obvious next move for the Soviet. Much as the Orenburg - Tashkent threatens Afghanistan and India, the Turksib threatens China.

"Bill Shatov, graduate of U. S. A."

Although the Turksib is one of the few Soviet industrial projects that has been carried through without any foreign, and especially American, technical advice, a great deal of the construction equipment was American. Chicago Pneumatic Tool, American Car & Foundry, Bucyrus-Erie, Marion Steam Shovel all profited from the building of the Turksib. And Bill Shatov himself, while Russian by birth, is as much an American product as a Marion steam shovel. He boasts that he is a graduate of "U. S. A., the greatest industrial college in the world," and, like Hoover, calls himself a "social engineer." For many years he led the life of a "Wobbly" in the United States, setting type one day on a New Jersey newspaper and hopping a freight for Montana and the wheat harvest the next. The bright Red intellectuals who attended the Ferrer School in New York used to listen to lectures by Bill Shatov, Clarence Darrow, Will Durant, and many another rebel. Perhaps Big Bill got his



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Over 79% of recent work is repeat business. Over 75% of our work, during the last 10 years, has been for concerns not connected in any way with Stone & Webster interests. We offer over a billion dollars of construction and engineering experience to those who demand speed, efficiency, and economy in building work.

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The Securities of Ohio Corporations

which include those of many companies that are vital factors in the great industrial structure of the United States, have attracted investment capital from probably every state in the Union.

We have maintained for years, in our Cleveland office, an Ohio Securities Department, devoted exclusively to Ohio securities, listed and unlisted, which is now being used by investors in all parts of the country. It is supplemented by offices in Cincinnati, Columbus, Toledo, Canton, Massillon and Akron, Ohio, private wire connections and memberships in the Cleveland, Cincinnati and Columbus Stock Exchanges. Through this department we offer a highly specialized service in Ohio Securities.

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Established 1899
NEW YORK CLEVELAND CHICAGO
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and Accountants—
Merchandising Counselors

Maintaining a complete staff of engineers, accountants and research workers in the industrial field for the survey of product, process, distribution and of management.

A brochure containing the papers presented at the Third Annual Merchandising Conference recently conducted by Bigelow, Kent, Willard & Company, Inc. will be loaned to executives upon request.

PARK SQUARE BUILDING, BOSTON

executive experience and his power in handling men from the strikes he had a hand in organizing at one time or another.

Bill Shatov has a remarkable capacity for liquor. When he is drunk, he sings loudly. The most remarkable thing about his career in Russia during and since the revolution is that he has never joined the Communist Party. He is an anarchist—and an individualist—who submits to no authority, whether of capitalists or of proletarians. Though he is no Communist, he has held so many high posts in Soviet Russia that the tale wearies in the telling. In the hectic early days of the revolution he showed himself a remarkably able military commander. He it was who was for a time Chief of Police in Leningrad, who successfully defended the city against the "White Russians" under General Krasnov, and who organized those hard fighting troops known as "Shatov's Shock Battalions." In the later Soviet Russia that has beaten its field guns into tractors, Bill Shatov has revealed himself as an exceptionally able executive. He has been a pillar of the Oil Trust and of the Metal Collegium. One of his most notable economic exploits was his reorganization of the banks of the Caucasus. He started off by assembling the bankers and telling them that he knew something about banks because he once held up one. He is much interested in art and letters and has a standing order with his old friend, Michael Gold, editor of the *New Masses*, to keep him supplied with the latest books from the States. A recent consignment included Hemingway's *A Farewell to Arms*, the Beards' *The Rise of American Civilization*, Dos Passos' *42nd Parallel*, and Upton Sinclair's *Mountain City*.

Salt

[*Continued from page 52*]

so that plants can more easily assimilate it though an overdose of salt renders soil sterile and is about the only thing which will kill poison ivy, now so prevalent in the United States . . .

. . . By soap-makers to precipitate the liquid soap into solid form. Salt accomplishes this by forcing the water out of the fat and coagulating the albumen . . .

. . . By tanners to prevent putrefaction of the raw skins and to swell the cells and thus make the skins pliable . . .

. . . By paper-makers, as calcium hypochlorite (derived from chlorine, of which paper-makers use over 55 per cent of total U. S. production), to bleach the wood pulp . . .

. . . By textile manufacturers as a bleaching agent (as sodium hypochlorite) and (as tin tetrachloride) in weighting silk . . .

. . . By steel-makers as a flux. Salt lowers the fusion point of minerals, i.e., makes them more soluble . . .

. . . By refiners of oil, gold, silver, copper. Salt here, in general, acts as it does in soap-making: as a precipitating agent . . .

. . . By industrial chemists, one of whom has remarked, "Give a chemist coal, salt, water, lime, sulphur, and cellulose, and he can perform nearly all the modern miracles in chemistry."

Salt by land and sea

The first salt miners in this country were buffaloes. In many ways salt offers the world's simplest mining problems. Royal Crystal Salt makes money by the simple process of pumping water out of Utah's Great Salt Lake. The sun does the rest. For many centuries pickax and shovel were the main equipment in the celebrated salt mine at Wieliczka, Poland, first worked in 1000 A.D., and filled with grottoes and shrines hewn out of salt. Most contemporary salt mining, however, is a little beyond the grasp of even the brightest buffalo. Machinery has been introduced, much of it first appearing in International's great Retsof mine in upper New York State, which is pictured on page 53. Here operations are carried on with power drills, explosives, automatic hoists, and miles of railway tracks, much as in a coal mine. The chief difference is that salt mining is safe and even healthy, for the salt-laden air is good for colds and rheumatism.

Salt is either mined (in which case it is rock) or refined (in which case it is evaporated). Rock salt is industrial salt. Most evaporated salt is also industrial —chiefly in pickling, preserving foods; the remainder is table salt. In tonnage rock and evaporated are about equal; in annual value evaporated has a decided edge. Michigan, first in salt

[*Continued on page 109*]

"See here, Hartford—you're going too far!"

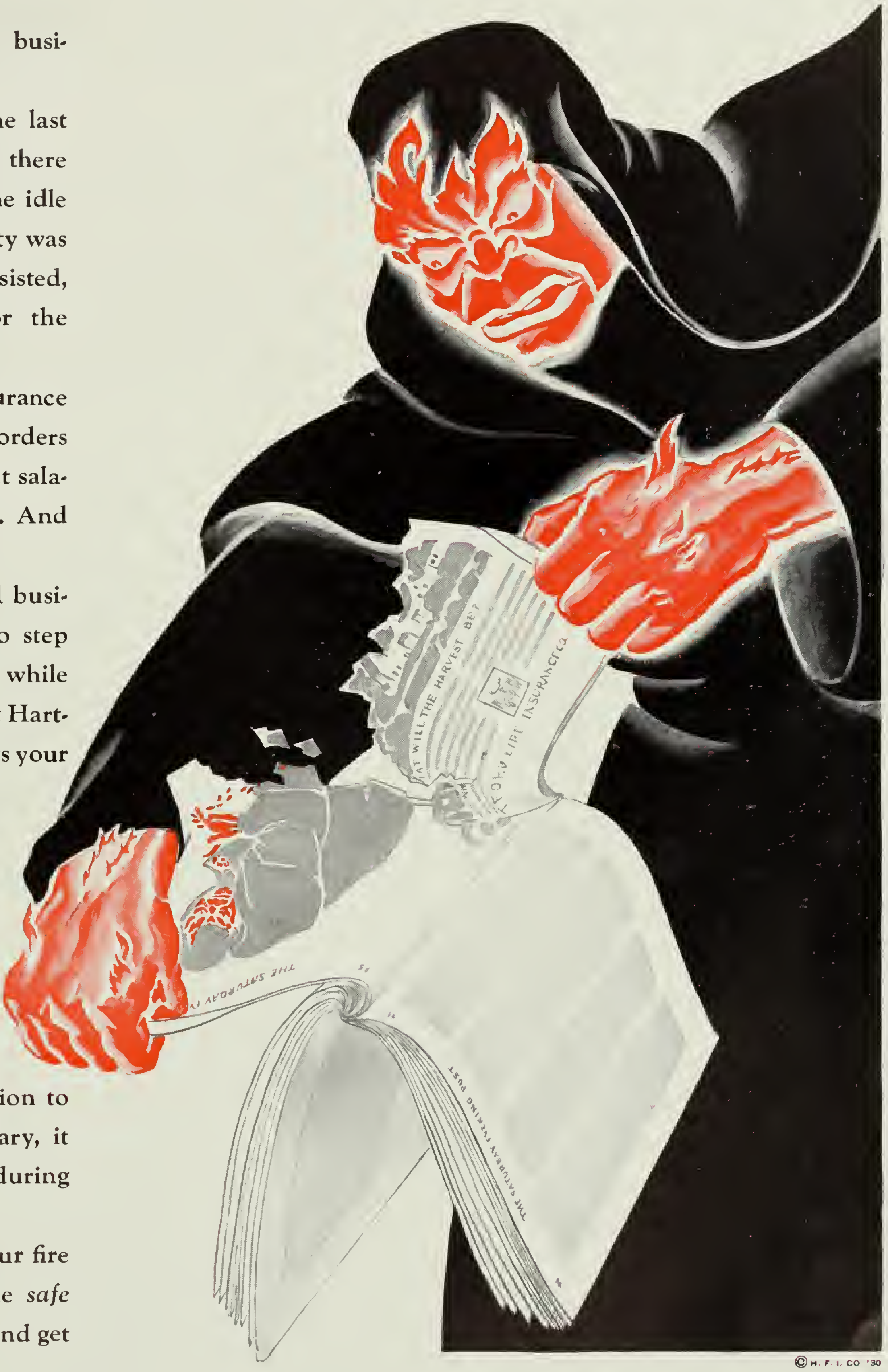
The Hartford is interfering with Fire's business—very seriously.

Until lately, Fire has always had the last word. Insurance met property loss, but there was always a yawning gap left open—the idle months while income producing property was being restored. Fire's deadly blight persisted, long after the insurance had paid for the property.

Business can't resume the day the insurance is paid. Income stops—profits stop—orders can't be filled. Expenses go on—contract salaries must be paid, taxes and interest met. And there's no income!

But that's past. Now the thoughtful business man arranges his fire insurance to step right in and *take the place of his business* while his property is being rebuilt. That's what Hartford *individualized insurance* does. It pays your loss during the idle months . . . in addition to replacing the property itself. If necessary, it pays your rent in temporary quarters during reconstruction.

The Hartford agent can arrange your fire insurance to keep your business income *safe* from Fire. Get him on the wire now*—and get out from under Fire's thumb!



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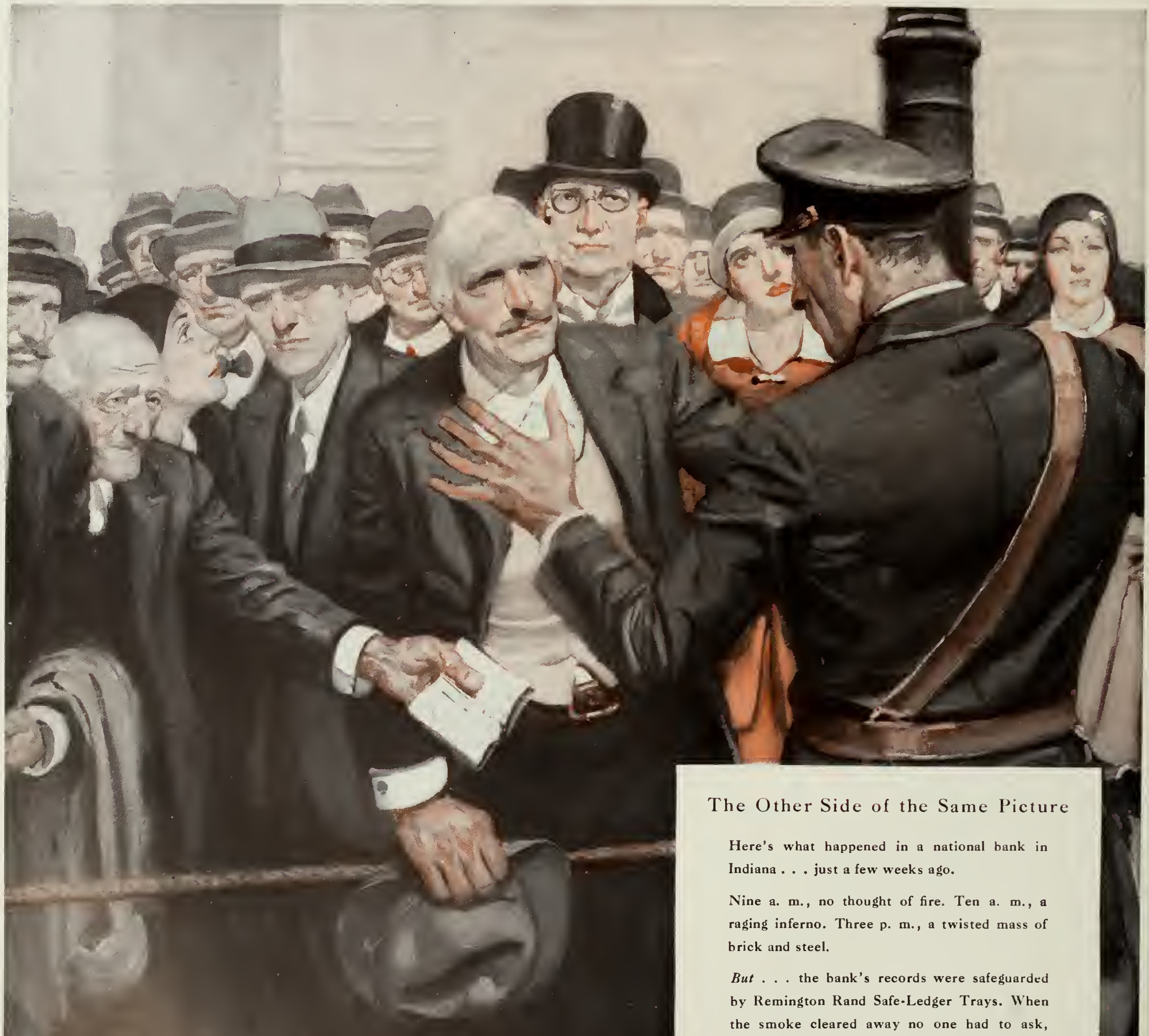
THE HARTFORD FIRE INSURANCE CO.
AND THE HARTFORD ACCIDENT AND INDEMNITY COMPANY
WRITE PRACTICALLY EVERY FORM OF INSURANCE EXCEPT LIFE

*If you do not know the name of the Hartford agent look under "Hartford" in your telephone book. If he isn't listed write the Hartford Fire Insurance Co., Hartford, Conn.

THE EMANCIPATION OF THE AMERICAN BUSINESS MAN

"Whose $8,000,000



The Other Side of the Same Picture

Here's what happened in a national bank in Indiana . . . just a few weeks ago.

Nine a. m., no thought of fire. Ten a. m., a raging inferno. Three p. m., a twisted mass of brick and steel.

But . . . the bank's records were safeguarded by Remington Rand Safe-Ledger Trays. When the smoke cleared away no one had to ask, "Whose $8,000,000 is this?" The records were intact, unharmed. The building was ruined . . . the *bank* was saved.

THE EMANCIPATION OF THE AMERICAN BUSINESS MAN

is THIS . . ?"

Owners Please Identify!

In the winter of 1913, when fire destroyed the offices of the leading savings bank in a Massachusetts town, every depositor's record was burned. Eight million dollars in currency and securities were salvaged next morning when the vault was opened. But not a soul in the bank knew to whom it belonged. Rumor of the bank's predicament quickly spread to the industrial quarter. By noon a threatening mob had formed. The bank's president, surrounded by a cordon of police, addressed his customers in reassuring tones. A temporary office was being opened. If depositors would bring in their pass books they would be accepted as sufficient proof of the bank's indebtedness. Every depositor was guaranteed his money. But the afternoon papers carried the headline, "$1,361,000 withdrawn in run on burned bank."

• • •

Today no truly modern bank or business office depends on the inadequate office safe or vault, which at best can house only a few movable records. Now records of every description are fire-protected *where they are made and used.* No longer must they be *carried* to fire protection. Fire protection has been *carried to them.*

Today file cabinets are safes. Visible record cabinets are safes. Ledger trays and desks, housing modern records of account, are fire-resisting units in themselves. *Even the papers in your office desk* are safe-protected from fire's searching fingers.

In modern offices of every kind, when the closing whistle blows or the fire gong sounds, your clerks merely replace the individual records on which they were working, click an automatic-locking steel file drawer or cabinet door and every book, card or paper is sealed in behind fire-insulated walls.

• • •

What has brought about this long-awaited protection to *all* the records of business? The formation of Remington Rand. For Remington Rand, by consolidating the leading makers in all branches of office equipment, pooled also their knowledge and experience. Made it possible for safe-construction experts to work shoulder-to-shoulder with office systems specialists, record experts, and the leading minds in machine accounting systems. Working "one for all, and all for one" they applied to every major record system the secret of fire-protection.

Thus Remington Rand is not only providing business with a single headquarters for the best office machinery and systems, but it is adding the refinements as well. The application of fire-protection to *all* business records is only one of many business miracles that are constantly emerging from Remington Rand laboratories. No matter what record-making or record-housing problem your business may be confronted with, the Remington Rand man can show you better business ways.

Having at his command the whole scope of Remington Rand products, he is not forced to advocate any particular device or method. His counsel is unprejudiced and unbiased. He is backed by the combined knowledge of all Remington Rand companies, and by the team-work of 4,000 other trained business advisers. Call him at any Remington Rand office. Use him as though he were a member of your own staff.

Remington Rand

BUSINESS SERVICE

Executive offices, Buffalo, New York. Sales offices in all leading cities.

LIBRARY BUREAU *Filing Systems and Indexing Service* . . . SAFE-CABINET *Record Protection Devices* POWERS *Accounting Machines* . . . INDEX VISIBLE RAND & KARDEX *Visible Records*... DALTON *Adding and Bookkeeping Machines* . . . KALAMAZOO AND BAKER - VAWTER *Loose Leaf Equipment*

REMINGTON *Typewriters and Accounting Machines*

THE GREAT EMANCIPATORS

The Prince doubts the mighty sword of Richard, who cleaves in two the Prince's mace as evidence

Sword of Richard. Painted by Ludwig Gassner

CUTTING COSTS *of Upkeep*

This famous sword, in the hands of Richard The Lion Heart, cut down resistance and brought him achievement and success in his crusades. Today, in the experienced hands of Lyon craftsmen, steel is fashioned into storage and display equipment that materially cuts business costs—promotes efficiency and order—speeds up sales and service. These economies, immediately effective, are accumulative throughout the years. Upkeep costs and depreciation are negligible, for Lyon equipment is standardized, interchangeable and adjustable to changing conditions. Whatever your storage and display problems—whether you need shelving for stock room or tool room—lockers for club or school—cabinets for office or shop—and fixtures for your store—write for descriptive catalogs—today—you will find them suggestive of many profitable business improvements.

LYON

LYON METAL PRODUCTS, INCORPORATED
Converters of Sheet Steel into Practical Conveniences
AURORA, ILLINOIS
Branches, Jobbers and Dealers in All Principal Cities

STORAGE AND DISPLAY EQUIPMENT IN STEEL
STORE FIXTURES : COUNTERS AND SHOW CASES
SHELVING : LOCKERS AND CABINETS
FOLDING TABLES
AND CHAIRS

production, has many brine wells. New York, the runner-up, is rich in rock salt, so rich, in fact, that a quarter of the cost of the old Erie Canal was paid by salt taxes. International, with mines in both states, estimates that it has enough salt in sight, geologically speaking, to last a century at the present rate of mining.

There is enough salt in the world to last as long as the world does. The amount of salt dissolved in the seas and caked in the earth is a solemn thought. Last winter an explorer came back from the sun-baked desert interior of Australia with a tale of a vast salt lake bed. He estimated the salt in the northern part alone at 3,000,000,000 tons, a figure which takes on epic proportions when compared to the annual world consumption of about 21,000,000 tons. The 11,600 tons of salt in the Dead Sea would keep the world happy for many centuries. And this, of course, is a mere fraction of the salt in all the oceans. Not until Indian rebels have extracted 4,500,000 cubic *miles* of salt from the sea will they be embarrassed by lack of raw material.

A Note on Pepper

SALT is a mineral. Pepper is a vegetable. Practically all salt is domestic. Practically all pepper is imported. Salt is something one must eat in order to live. Pepper is a mere palate tickler. Salt is a commodity so unspeculative that it is dealt in on no exchange. Pepper is a commodity wholly distributed through brokers and whose futures are as exciting a gamble as any at Monte Carlo. "There is something holy about salt," once wrote Nathaniel Hawthorne. No one has thus spoken of pepper.

Pepper is a seed that comes from India and the Dutch East Indies. Practically, all pepper tastes the same, costs the same. The one distinction is between white and black pepper—though witty traders insist that even here the main difference is color.

One of the two links between pepper and salt is that both are used to preserve food. No refrigeration plus a tropical climate runs up the oriental consumption of pepper. Even in this country of ice boxes the meat packers buy carloads of white pepper to stuff into their sausages.

Downtown on lower Manhattan Island men in shirt sleeves, talking fast into telephones all day, determine how much Batavian farmers are to get for their pepper crop. A Manhattan spice broker is a smart trader, and he has need to be such. He and his fellows meet on no exchange floor. He does all his trading over the telephone, makes buying offers to importers, selling prices to consumers, "takes a position" in the futures market—all by phone. He gets no quotations. He must call up some one and make an offer if he wants to find out what pepper is "doing." And he must keep the current market for pepper and a hundred other spices entirely in his head, be ready to take a position on any one of them every time the phone rings.

Besides his daily perturbations, the spice broker goes through two major crises every year. These come in July, when the Dutch East Indian pepper crop is harvested, and in December, when the Indian crop comes into the market. In the last decade pepper prices have shot up and down a price range that begins at four and one-half cents a pound and extends to forty-three cents. When one considers that pepper is not infrequently bought and sold in carloads, that about 1,000 tons are consumed in the United States every month, one understands why the spice broker must be a shrewd trader. Yet pepper is comparatively tame alongside of certain other spices: cloves, for instance, have a speculative record that puts J. I. Case Co. in the Liberty Bond class.

Pepper is at present in a very strong technical position. Prices hover around twenty-one cents a pound, which is considerably firmer than most Far Eastern products—rubber, for instance. Reserve stocks are low everywhere: in London recently there was only a little over 1,000 tons on hand. And, to complete the satisfaction of pepper bulls, the monsoon season, which lasts until September, is cutting down shipments out of the Orient. Thus pepper's second, and last, similarity to salt is that it is a commodity untouched by the adversity that has fallen upon most commodities.

August here offers more than just a memory — however delightful — of links and lake and cool, pine-scented nights; it will give you a system genuinely reconditioned for the strain of Fall. For a complete description of the Nauheim Baths, the radio-active waters, the famous restorative treatments, address Mr. Wm. M. Leffingwell, President, Glen Springs, Watkins Glen, New York.

GLEN SPRINGS

THE AMERICAN NAUHEIM

The SAVOY-PLAZA *New York*

HENRY A. ROST *President*

IDEALLY located on Fifth Avenue at the entrance to Central Park, near business, transportation, theatres, shops. The Plaza and its newer associate, the Savoy-Plaza, offer the highest standards of hospitality, unexcelled cuisine ... everything to make your stay an enjoyable one.

HOTELS *of* DISTINCTION

FRED STERRY *President*

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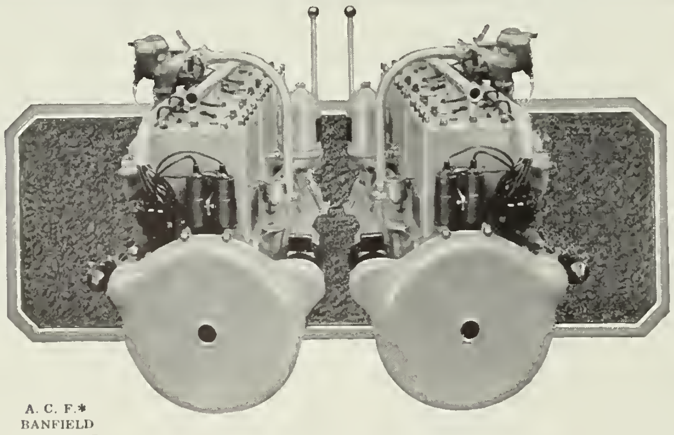
The PLAZA *New York*

HUSKY CRUISERS
. . . . built by MATTHEWS

The seasoned yachtsman places a premium on the experience and integrity of a boat builder. It pays him a high return in value, security and renowned performance. You can take a Matthews "38" or "46" to sea in any kind of weather. Their husky design, smart bow flare, carefully molded underbottom construction, spaciousness and excellent appointments always insure maximum comfort and safety. You can cruise with four, six or eight aboard at from 15 to 30 miles per hour, depending on your choice of models. There are ten to select from with twenty-four individual arrangements. Prices on Matthews Cruisers start at $6850, afloat Port Clinton ready for service. Your request will bring complete details, or consult your nearest dealer.

Send for the descriptive booklets on Matthews Cruisers

THE MATTHEWS COMPANY
Designers and Builders of Boats of Distinction . . . Since 1890
324 Bay Side Port Clinton, Ohio



A. C. F.*
BANFIELD
CHRIS-CRAFT*
CORSAIR "36"
DART*
GAR WOOD "40"
HACKERCRAFT*
KING SEA-SKIFFS
KYLE "43"
LUDDCO DREAM BOATS*
MATTHEWS*
MINETT-SHIELDS
ROBINSON SEA GULL
SEA LYON "40"*
STEPHENS
SUNBEAM "46"
WHEELER "PLAYMATES"*
Foreign
BRITISH POWER BOATS
OSBORNE-CRAFT--*England*
CLAUS CRAFT--*Germany*
CHANTIERS NAVAL EXCELSIOR
DESPUJOLS--*France*
ORTOLAN -*Argentine*
*Optional

DEPENDABLE POWER

The wide acceptance of SCRIPPS motors by so many prominent builders of standardized craft who offer them as standard or optional equipment is significant of SCRIPPS unfailing dependability.

Fifteen models—15 to 200 Horse Power
High speed and medium duty.

Interesting literature will be mailed upon request.

SCRIPPS MOTOR CO., 5844 LINCOLN AVENUE, DETROIT, MICH.

SCRIPPS
THE MOTOR THAT CROSSED THE ATLANTIC

Temple of the Dollars, the Pounds

[*Continued from page 71*]

H. Patterson, who died in 1922, J. H. Barringer, the powerful, compelling general manager of today. Patterson equals the past, Barringer equals the future; while between the old and the new orders is the common bond of terrific sales pressure. Mr. Barringer, who had been a clerk in a hardware store in a near-by town at the age of twenty-five, came to N. C. R. as a clerk in 1907. In 1911 he became Patterson's personal assistant, with the responsibility of tracing the complicated Patterson orders through to their completion. Patterson was struck with him because he was one of the few whose own personality was, in its way, as dominating as the founder's. His ability to lead and organize men was unmistakable. The War threw the company into the red ink in 1914, and Patterson began looking for younger blood. In 1917 he chose Barringer, deposited the business in his hands. That year was the turning point in N. C. R. history—from it arises the modern N. C. R., something quite different from the Patterson N. C. R.—an organization as well adjusted to modern civilization as any in the land. Now Barringer is one of America's highest paid executives.

A great sign hangs in Mr. Barringer's office at Dayton: BIGGER OR BUST. It is dated 1927, and is signed by his chief executives and sales managers. General Manager Barringer has been known to rise from his desk, cross to a giant pad on an easel, and scribble with colored pencil: "$100,000,000 sales—$20,000,000 net profit." Smaller men would not dare such a goal, but this is Barringer's goal; the goal of Treasurer S. C. Allyn, a master of industrial finance; the goal of Salesman-in-Chief Charles E. Steffey; the goal of this modern N.C.R.

In considering a $100,000,000 objective, however, certain obstacles arise before the dispassionate observer. With one cash register in the United States for every 162 persons, the old question of the saturation point suggests itself, and is emphasized by N.C.R.'s earnings for 1929. In 1925 domestic sales were $31,600,000; in 1929, only $31,004,000. Domestic sales for the first quarter of this year are 22 per cent below sales for the same period in 1929. N.C.R. stock was floated at 50 in 1925. At one time the "A" shares sold in the one hundred and forties, but now they sell in the forties, below the original price. While the 1930 sales figures harmonize with a general business depression, it is difficult to understand what obstacle, other than saturation, has restricted N.C.R. domestic growth during the bull years of 1926-29. The average profits have been lower than the earnings of 1925 after adjusting them for the new employee deal, and in 1929 profits were greater by only about $450,000 on a gross business increased by more than $10,000,000 over 1925. The pause cannot be due to competition, because Patterson himself put all the old romantic rivals out of business. Remington has made progress with an excellent machine, but does only about 10 per cent of the business. N. C. R.'s most dangerous competitor is its own long lived second-hand machine.

To this difficulty the Barringer organization—the modern Cash—has two sound answers. It points first to foreign sales, which accounted for only about one-third of the foreign business in 1926; half in 1929; 55 per cent during the first five months of this year. In nations doing a brisk retail trade whose retailers are just being educated up to N.C.R.'s idea of the cash drawer, the field is naturally enormous. Sales in England have increased 41 per cent for the first five months of 1930 over the same period in 1929. The Soviet Government, which operates 85,000 stores, now has an order with N.C.R. for 100 machines to be tried out. It is impossible to estimate where this kind of expansion may end.

The growth in England has been due to the installation in English banks of the new posting machines, and at this point enters the second bigger-or-bust answer to the spectre of saturation. The Cash spends more than $300,000 a year in research for new machines, and it is the boast of the present management that within a reasonable time every cash register now in operation will be obsolete. To back up this state-

BULK STORAGE PLANT
Staten Island, New York

POWER PLANT
Port Arthur, Texas

Building two plants for the Gulf Refining Company . . .

A 1,920,000 barrel oil storage plant on Staten Island, and a power plant at Port Arthur, Texas, built simultaneously in fast time.

TO SERVE the New York Market, the Gulf Refining Company required a new storage plant on Staten Island. At the same time a large new power plant was needed at the refinery at Port Arthur, Texas.

We were called in to design and build both plants at the same time.

The storage plant on Staten Island has a capacity of 1,920,000 barrels, occupies 110 acres, and includes twenty-four 80,000 barrel oil tanks, steam plant, two drainage pumping stations, oil pumping station, fire pump and substation, dock for oil tankers, 9 miles of oil pipe mains, 18 miles of foamite pipe, 8 miles of steam pipe, 4 miles of levees, 3 miles of streets and roads, 4 miles of water mains, 2 miles of electric pole lines.

We did all this work in 6 months' time.

The power plant at Port Arthur, designed to utilize refinery waste products — sludge oil and pulverized paraffin petroleum coke — contains 3 boilers of 15,400 sq. ft. each and a turbine of 10,000 kw. capacity. It was also built in six months.

At Staten Island we have been called back to build large additions which are now under construction.

We are prepared to serve industrial companies in the design and construction of storage plants, factories, chemical plants, power plants, or work of almost any nature.

UNITED ENGINEERS & CONSTRUCTORS
INCORPORATED
DWIGHT P. ROBINSON, PRESIDENT

PHILADELPHIA
LOS ANGELES
NEW YORK
BUENOS AIRES
NEWARK
MONTREAL
CHICAGO
RIO DE JANEIRO

MAXIMUM RETURN TO CLIENTS PER DOLLAR INVESTED

An Investment in Health and Pleasure!

THIS summer make a real investment in health and pleasure—buy a Cruisabout and go out on wide, blue water away from the crowds and the dust, dirt and din of the city.

The Cruisabout is more than just a boat. It is a complete, compact, mobile summer home on which you can go when and where you choose.

For $3585, much less than the cost of a small summer cottage, you can own a Cruisabout. See the Cruisabout display at Bruns-Kimball & Co., 5th Ave. & 15th St., New York City or write for Booklet "N".

RICHARDSON BOAT COMPANY, Inc.
457 Sweeney Street North Tonawanda, N. Y.

Richardson Cruisabouts

Parachutes and Insurance Policies

BOTH parachutes and insurance policies are emergency propositions—to bring you safely to earth when disaster comes. Considering their vital missions, you want to know that each will function promptly and properly when emergency arrives.

Since 1876 CENTRAL policies have functioned properly in unquestioned quality of protection. They function promptly in immediate payment of losses. It means something also to the careful buyer that CENTRAL'S dividend (30% since 1921) actually cuts almost one-third from insurance cost.

CENTRAL policies are written through local agents. Full information, with name of nearest representative, on request.

CHECKS MAILED SAME DAY PROOF OF LOSS RECEIVED

Organized 1876 The CENTRAL A Friendly Company
MANUFACTURERS MUTUAL INSURANCE COMPANY
VAN WERT OHIO

Fire, Automobile and Tornado Insurance for Select Risks

ment Mr. Barringer points to the "Two Thousand," N.C.R.'s star performer, which was brought out of the laboratory a year before John Henry Patterson's death, but which is really the product of the new Daytonian order. As the screw propeller was to the steamship, so is the Two Thousand to N.C.R. Into it went $6,500,000 in engineering and research; it answered for half the total business in 1929 and is expected to do more than half in 1930. It has as many as nine cash drawers, one for each clerk, who is thus made entirely responsible for his sales, since he must balance his drawer before leaving the store at night. Each drawer has a different bell; it is impossible for one clerk to open another's drawer without announcing the fact in high jangling treble or deep iron bass.

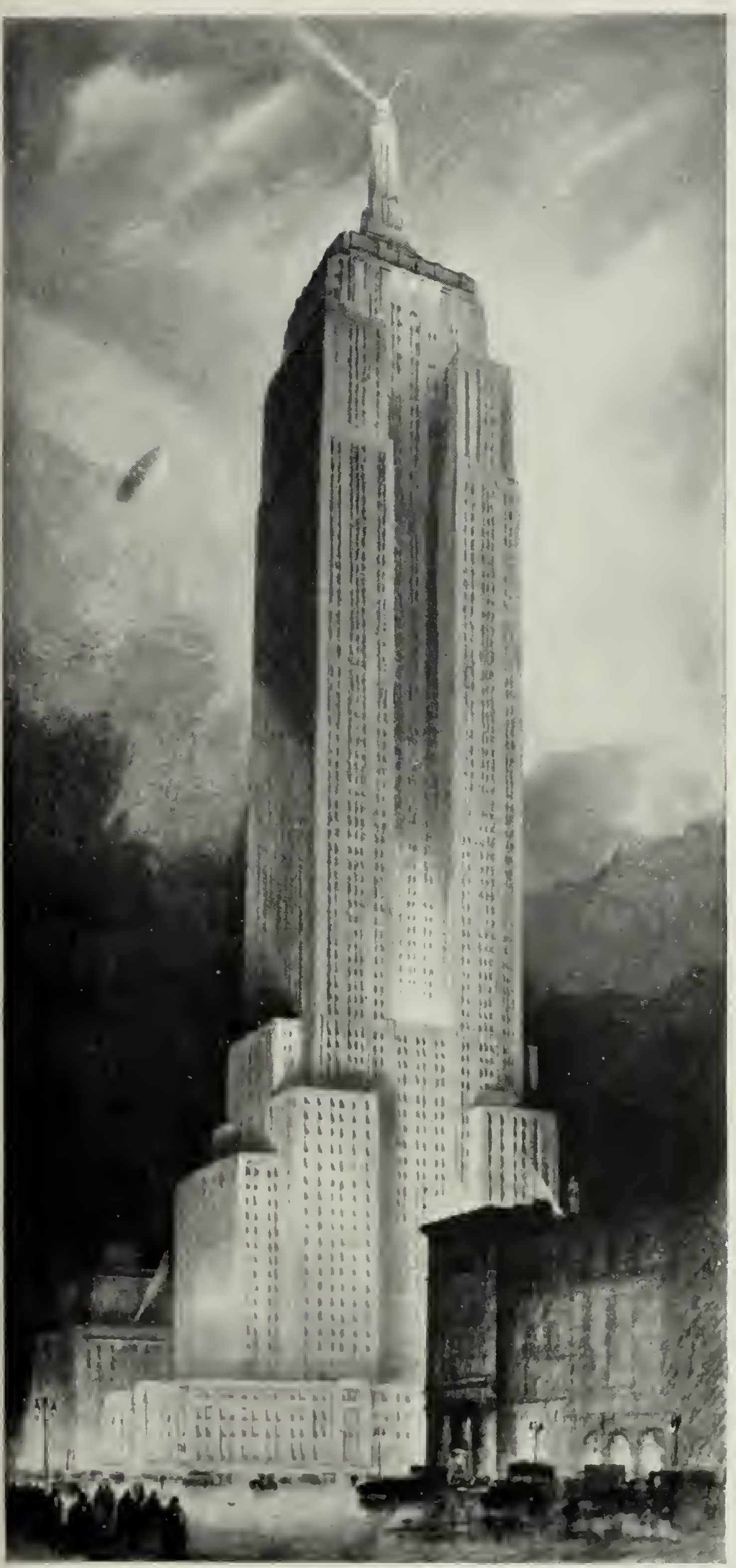
So popular are Two Thousands and their numerous modifications with John Wanamaker, Marshall Field, Gimbel Bros., and their brethren, that department stores have become N.C.R.'s star customers and represent 12 per cent of gross. Banks are fourth on the list of N.C.R. customers, representing 7.3 per cent of sales; and at this point, exit the shade of the old brass-bellied register, set like a policeman on the fly-specked counter of a Quick Lunch: enter the new, almost infinitely complicated Barringer machines. From the retailer's Two Thousand has been born the banker's Two Thousand, aristocrat of cash. One operation on such a machine prints a deposit, a withdrawal, or an interest credit on the journal sheet (within the machine), on the ledger card (inserted into the machine by the operator), and on the customer's pass book—simultaneously. About 90 per cent of the savings banks in Greater New York use the Two Thousand, and similar machines are used for posting by installment houses. A still more advanced machine called the Three Thousand has recently invaded commercial banks; but is not strictly a cash register, being a combination adding machine and typewriter, manufactured by Ellis Adding-Typewriter Co., Newark, New Jersey, a subsidiary of N.C.R., purchased last year for $4,000,000 cash and 30,000 shares of common stock, which had a market value of over $3,000,000. Preparing to market these accounting machines Mr. Barringer has organized, on N.C.R. high pressure lines, an entirely separate sales force—an army which was encamped in tents around the Dayton factory last month.

To answer the threat of saturation, to give the world, if possible, a whole new set of cash registers—the modern N.C.R. has not stopped here. It has recently placed on the market the Seven Thousand which makes new prospects out of thousands of owners of the old simple cash register. A new check writer has just come to the market. It has yet to market a number of new machines developed by its own engineers in coöperation with a department called "Future Demands." Among these unborn wonders are a machine for the use of public utility corporations, a machine to print railroad tickets on the spot and as called for, a machine for mailing houses which will turn out mail-permit slips with glue on the back of them, to be pasted on packages instead of stamps. N.C.R awaits government approval for this last item, the advantage of which is that a record of the stamps, a record of the shipment, a record of the sale, and a record of the mailing-clerk are all made at the same time. The railroad ticket machine is based upon a smaller one now being used on bus lines.

And certainly it may be said that, if the present N.C.R. captains can duplicate with future machines the success of the Two Thousand, there is no telling where The Cash will end. For the planet which N.C.R. has chosen for its field is large. Yet however far it goes, and however brilliant its destiny, the future of this company is peculiarly bound up with its past.

For at Dayton John Henry Patterson is immortal. As in one of the N. C. R. buildings there are 2,900 machines, each representing a step forward in cash register invention (many of them never marketed), so, in the memory of Dayton, Mr. Patterson's fads and fancies are still adrift. Hung on the walls, suspended on the hall ceilings, painted on the buildings of N. C. R., quotations survive by the thousand, sayings by every one from Mr. Patterson through Emerson and Lincoln to Shakespeare himself. He expected his people to follow these things literally. "Enthusiasm is the biggest asset in business" meant just that. Nothing else.

[*Continued on page 116*]



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CONTRACTORS: STARRETT BROS. AND EKEN, INC.

EMPIRE STATE BUILDING

NEW YORK

THE WORLD'S LARGEST AND TALLEST OFFICE BUILDING

The Empire State Building: designed by Shreve, Lamb & Harmon; under construction at 5th Avenue, 33rd and 34th Streets, New York City by Starrett Bros. and Eken, Inc... to be 85 stories high, the largest and tallest office building in the world, with twelve hundred and thirty-two elevator entrances by Dahlstrom.

DAHLSTROM METALLIC DOOR COMPANY
JAMESTOWN, N. Y.
With offices in all principal cities

Elevator Entrances by

DAHLSTROM

BURLINGAME PUBLIC LIB

John Hancock Series

A Partner's Obligations

EACH partner owes to his associate the assurance that business can be continued indefinitely, unhampered by lack of working capital or credit. The death of either is a contingency that would bring up this question. At the same time, he owes it to his dependents that, in case of his death, their interest in the business can be liquidated, as required by law, without bother or loss.

Unless the business has a large fund of ready money at that time, these dual obligations conflict. May we tell you how Business Life Insurance can be used in such cases for the benefit of all concerned? Address:

INQUIRY BUREAU

John Hancock
MUTUAL
LIFE INSURANCE COMPANY
OF BOSTON, MASSACHUSETTS
197 Clarendon St. Boston, Mass.

Please send information regarding partnership life insurance.

Name..........................

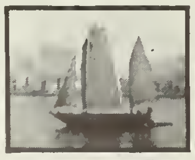
Address........................

Fr. ....

Over Sixty-Seven Years in Business

Travel Photography Modernized

Why be content with a few meagre snapshots on your travels? Using the Memo Camera you can make a 500-picture record—complete, intimate, gossipy—with $5 worth of film. Gets everything instantly, easily; no bother. 50 pictures without changing film. Spyglass finder; take them as you see them. A twick of your thumb and the film is advanced for another shot. A pocket camera, only 2 x 2½ x 4 inches. Gives thumbnail prints for illustrating letters . . enlargements for the album . . and complete personal newsreels, with titles to show on the screen. The Memo does a big job with handy-size pictures. Hundreds of uses beyond the scope of other cameras. Photography condensed for busy executives, travelers, sportsmen, motorists, parents, etc. Memo Camera only $20.



Memo picture size

AGFA ANSCO OF BINGHAMTON, N. Y.

Please send me free 56-page Memo handbook

Name____________________

Address__________________ 8

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August, 1930

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You may be hooking, you may be slicing, your putting may be as erratic as a left-handed earthquake—but if you are playing the Silver King you can be dead certain it isn't the fault of the ball.

85¢
SILVER KING
3
Silver King
THE KING O' THEM ALL

"THE STORY OF MODERN LACQUER"

"The Story of Modern Lacquer" is the title of a booklet that contains information most executives should have. You can read it in five minutes. It may suggest a way to save time and storage space; to make your product more salable by improving its appearance, by making it or its container waterproof, more resistant to abrasion, and by making it easy to wash and clean. ¶ We will gladly send you a copy of this booklet upon request. > > >

CELLULOSE PRODUCTS DEPT.

HERCULES POWDER COMPANY
(INCORPORATED)
975 King Street, Wilmington, Delaware

Nitrocellulose Explosives
Cotton Cellulose Naval Stores

SCOTT'S SEEDS
Bent Lawns

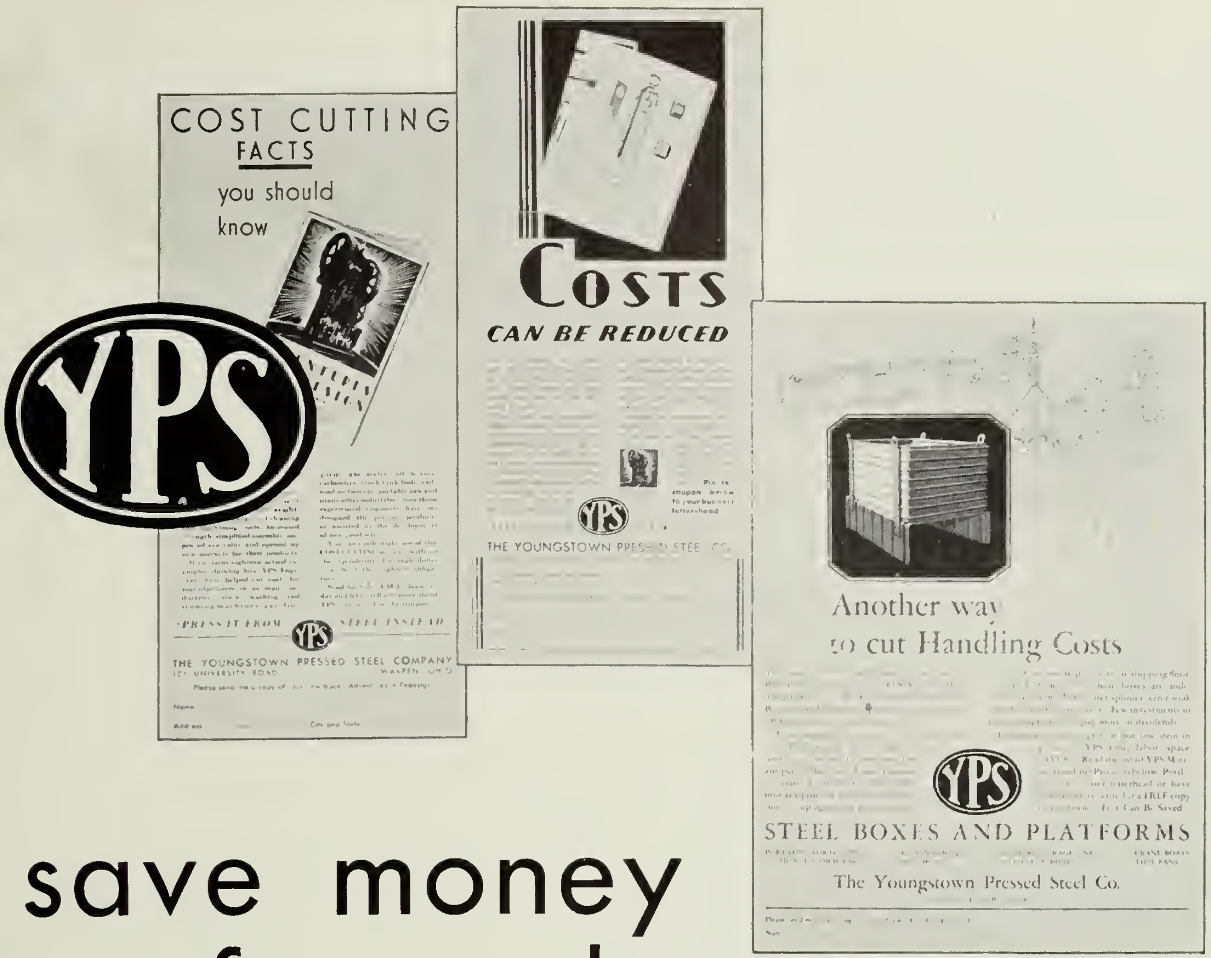
A Velvety Lawn in SIX WEEKS

IN six weeks' time you can have a rich, velvety lawn of *Scott's Creeping Bent.* It chokes out weeds before they can grow and forms a deep, thick uniform turf that's everlasting. With proper care no replanting is necessary.

SCOTT'S CREEPING BENT

produces that luxuriant, beautiful grass long recognized as ideal for putting greens. It grows from stolons (chopped grass) instead of seed and can be planted any time. It grows readily everywhere except in the extreme South. How to make a new lawn—how to replant an old one—how to care for bent lawns—fully explained in free book, "Bent Lawns." Write for a copy.

O. M. Scott & Sons Company
393 Main St. Marysville, Ohio


COST CUTTING FACTS you should know

PRESS IT FROM STEEL INSTEAD

THE YOUNGSTOWN PRESSED STEEL COMPANY

COSTS CAN BE REDUCED

THE YOUNGSTOWN PRESSED STEEL CO.

Another way to cut Handling Costs

STEEL BOXES AND PLATFORMS

The Youngstown Pressed Steel Co.

BURLINGAME PUBLIC LIB.

They save money for industry

. . . the MULTIGRAPH saves it for them

REDUCING costs for industrial organizations is a specialty of the Youngstown Pressed Steel Company. YPS developments in pressed steel for manufacturers eliminate machining and reduce assembly costs. YPS material handling equipment reduces space cost and handling costs.

What YPS does for Industry, the Multigraph does for YPS. Says W. G. Armstrong, assistant to the president, "We use it (the Multigraph) for personalized form letters, reprints of our national advertising which accompany these letters, imprints on letterheads and advertising matter, factory forms, etc.

"The savings that result from this method have made our Multigraph a most profitable investment.

"It costs a great deal less to carry electrotypes and print enclosures, reprints, etc., in small quantities as needed than it does to carry a stock of printed matter, and it reduces possibility of loss through obsolescence."

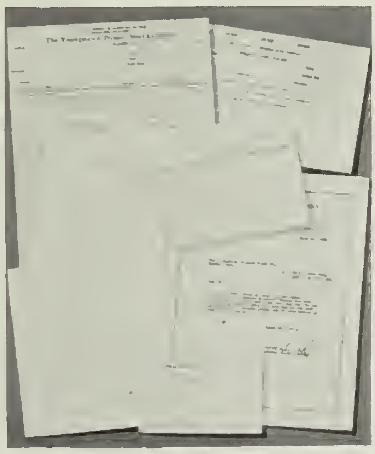
Savings for YPS have retired their investment in Multigraph equipment in two years. (How often do you find an investment that pays 50% per annum?)

In addition to all of which, as Mr. Armstrong observes, "The Multigraph has been a vital factor in our sales promotion work and has made it possible for us to do many things which otherwise would have been impractical."

Any Multigraph representative can give you additional instances of what the Multigraph has done both as a sales-producer and a cost-reducer. Look him up in your telephone book or write . . .

THE AMERICAN MULTIGRAPH SALES COMPANY
1834 East 40th Street Cleveland, Ohio

THE MULTIGRAPH SALES COMPANY, LIMITED,
137 Wellington Street, W., Toronto, Ontario



The Multigraph department of the Youngstown Pressed Steel Company and (at left) some of the office and factory forms which it produces.

The MULTIGRAPH

All
American
Steel Office
Equipment
is
Standardized

When you buy All American desks, files or supplies from an All American Dealer the matter of price, quality, match up, delivery, maintenance costs and dozens of other irritating aspects is reduced to the most perfect plan of simplified purchasing ever achieved in the Steel Office Furniture Business.

And since All American steel *is* Standardized, it naturally represents the Biggest Dollar Value any equipment dollar can find.

Save with Steel

Write for interesting booklet on Standardization of Manufacturing, Distributing and Using Steel Office Equipment.

Browne-Morse
Company
Muskegon, Michigan

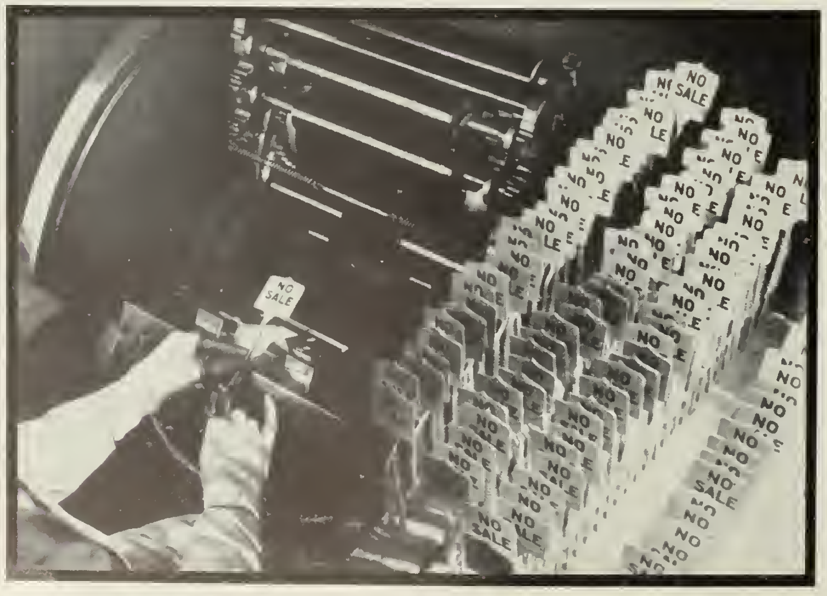
He had eccentric habits which he urged upon all his executives and underlings. A mania for cleanliness and neatness would sometimes lead him to personally inspect the desk drawers of his major executives to see if they were orderly.

Because no one could predict this man's reactions he was feared, but this was no source of regret to him, who above all things wanted to be considered a consummate genius, a master of men and organization. The danger signal was "Well, indeed!" which indicated that something erratic was about to happen.

Toward the end of his life Patterson's pre-occupation with health was almost a mania (see diet chart on page 71). He believed in early rising, and executive desks at The Cash are still apt to open at seven-thirty. Patterson got the idea that a brisk horseback ride at 6:30 A.M. would improve health and efficiency, so at dawn for a number of months he and his aids could be seen cantering across Hills and Dales (a 350 acre tract containing an eighteen-hole golf course which he gave to the city of Dayton). Horseback riding at N. C. R. is still popular. He never considered N. C. R. and the executives as anything but an extension of his own restless personality. He would try everything once and he expected everyone else to try it too. What was good for John Henry Patterson was good for everyone at the factory and helped to produce more and better registers. He sold registers this way, he trained men this way. When he heard of Fletcher's principle of masticating food forty times, many of his executives went in, perforce, for Fletcherizing. One doctor told him he ought to drink a glass of hot water frequently; therefore, in the midst of a consultation with department heads, hot water would arrive, not for him alone but for the department heads, too. The meeting would proceed—an analysis of sales in Alabama—a description of a complicated cam — hot-water-sipping.

The Patterson business methods are out-dated, the Patterson cash registers give place to new. The incredible Pattersonian accounting, consisting merely of bank balance, current liabilities, profit per register, and sales per diem, has been engulfed by scientific analysis of modern industrial finance. Even so. N. C. R. has a personality such as few corporations can boast of. N. C. R. has the breath of life because, over a period of nearly thirty years, one man could never clearly distinguish between N. C. R. and himself.

Most specifically, N. C. R.'s two traditions of research and sales-pressure will bear the Pattersonian stamp upon them forever. In producing machines for the future, the present N. C. R. is following out what Patterson once said, that "The first sale of any device is to be considered only as a first lesson to the consumer. The big sales are always in the future." And as for modern salesmanship, in organizing the bigger-or-bust drive of 1930 General Manager Barringer has adopted a slogan. It is: "TO BE CONTENT WITH RESULTS ACHIEVED IS THE FIRST SIGN OF BUSINESS DECAY." This is no far cry from John Henry Patterson's "The business that is satisfied with itself . . . is dead."



The Heritage of 49 Years of Experience

The William Bayley Company was founded 49 years ago with one idea — to make things of metal — things that would endure — for structural requirements and for buildings.

But permanence was not the only aim, for from the beginning the design of Bayley products has been constantly improved to meet the more modern standards in architecture.

As a consequence, Bayley Steel Windows and Doors are today known not only for their lifetime service but also for their outstanding design.

In the early days of the William Bayley Company, engineering was less specialized than it is today, and men in the Bayley shops received training in the fundamentals of design, pattern-making, casting in iron and bronze, fabricating and in the installation of products in buildings and bridge structures.

It is noteworthy that the present Bayley organization includes many of these craftsmen, and in some cases also their sons.

Two shops in the home town of Springfield, Ohio, make Bayley Steel Windows and Doors, and a chain of district offices and warehouses throughout the United States and in foreign lands support and serve selling connections and agencies.

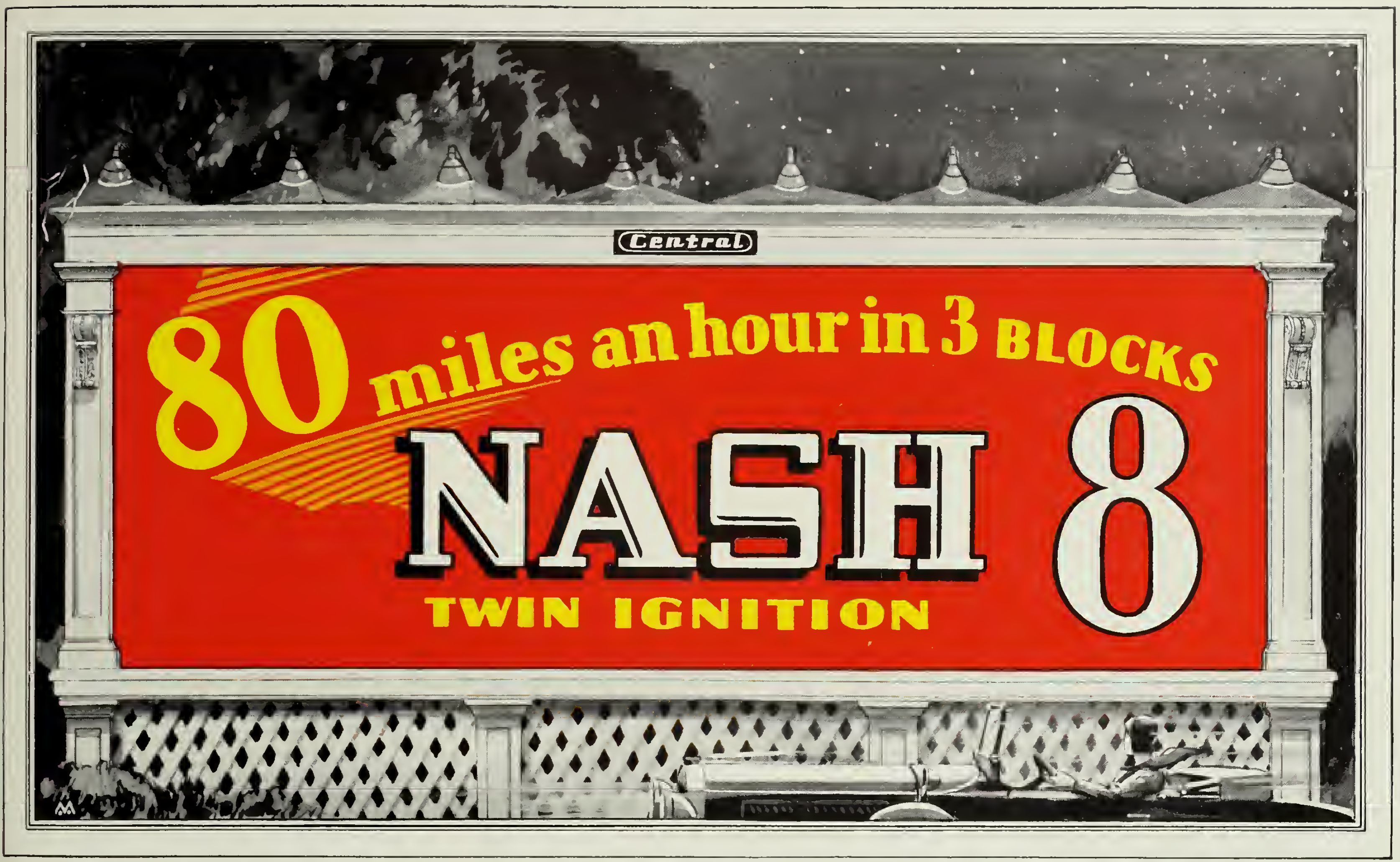
So it is that when you specify Bayley Steel Windows and Doors you are assured products as durable in service and as attractive in appearance as 49 years of experience, modernized facilities and large resources can produce. You are also assured thorough engineering cooperation, based on two generations of practice.

THE WILLIAM BAYLEY CO.
Springfield, Ohio

BAYLEY
STEEL WINDOWS & DOORS

District Offices
New York, 67 W. 44th St.
Boston, 5 Park St.
Chicago, 75 E. Wacker Drive
Cleveland, 449 Terminal Tower
Washington, 1427 I St., N. W.
Atlanta, 407 Bona Allen Bldg.
Sales Agencies also in Principal Cities

BURLINGAME PUBLIC LIB



America is outdoor-minded! The motor car made it so. I am materially aided in reaching and selling my market thru Outdoor Advertising. And it pays!

AeReeke

PRESIDENT
REEKE-NASH MOTOR CO.,
CLEVELAND, OHIO

This is the story of successful selling. It is the experience of one of America's foremost distributors. He has proven the effectiveness of the Outdoor message. An outstanding sales record confirms his contentions.

¶ Today—the purchasing power of the nation is on the highways. We are a nation of Outdoor enthusiasts. Ever on the go . . Doing things . . Going places. Mental reactions are fast. We are headline readers. Selling must be geared to the market.

¶ Outdoor Advertising dominates the motoring millions . . Color commands the eye. The message flashes. A mental impression is registered. Constant repetition builds the buying impulse. Desire is created. A decision is made. Business results.

THE CENTRAL OUTDOOR ADVERTISING COMPANY

1028 CARNEGIE AVENUE
CLEVELAND

Central

320 VANCE STREET
TOLEDO

Stalemated!

No wonder the White King looks depressed. It's White's turn and he can't make a move. Wouldn't any executive feel depressed who, with ample forces, found himself like a chess player in a stalemate position?

Late figures, insufficient figures, as typified by the Black King, may be keeping you from making important business moves.

Monroe methods and Monroe machines will give you promptly the routine figures—plus the *extra* figures which are so essential to plan intelligently for the future.

You don't need extra help to get these figures—your own office force, trained in your own business, can quickly be shown how simple and easy it is to apply Monroe short-cuts without upsetting your present system.

The combined knowledge and experience of the Monroe organization gained through constant contact with a thousand and one businesses is at your call. Telephone your local Monroe representative or mail the coupon.

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The Hercules Powder Company does not manufacture lacquer, celluloid, or other pyroxylin products. We produce nitrocellulose from which these materials are made.

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One Item That Never Goes on Your Bill. It's Manufactured Weather, and it gives year-round comfort to the customers of this Terminal Shop in the Chrysler Building. (below) You'll Enjoy Visiting this Shaw-Walker display room in the Chrysler Building . . . equipped with Manufactured Weather.

In summer, you step into an atmosphere that is cooled and dehumidified. In winter it's warm, clean and healthfully humidified. The name of this year-round comfort is Manufactured Weather.

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You'll find this same year-round comfort in other places in the Chrysler Building: Shaw-Walker's spacious display room on the third floor. The basement coupon and vault departments of the Central Hanover Bank and Trust Company. The shops in the basement arcade. And provisions have been made so that Manufactured Weather can be installed at any level of the whole Chrysler Building.

Manufactured Weather is the name given exclusively to the conditions of air comfort produced by the systems of the Carrier Engineering Corporation.

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Manufactured Weather *makes* "Every day a *good* day"

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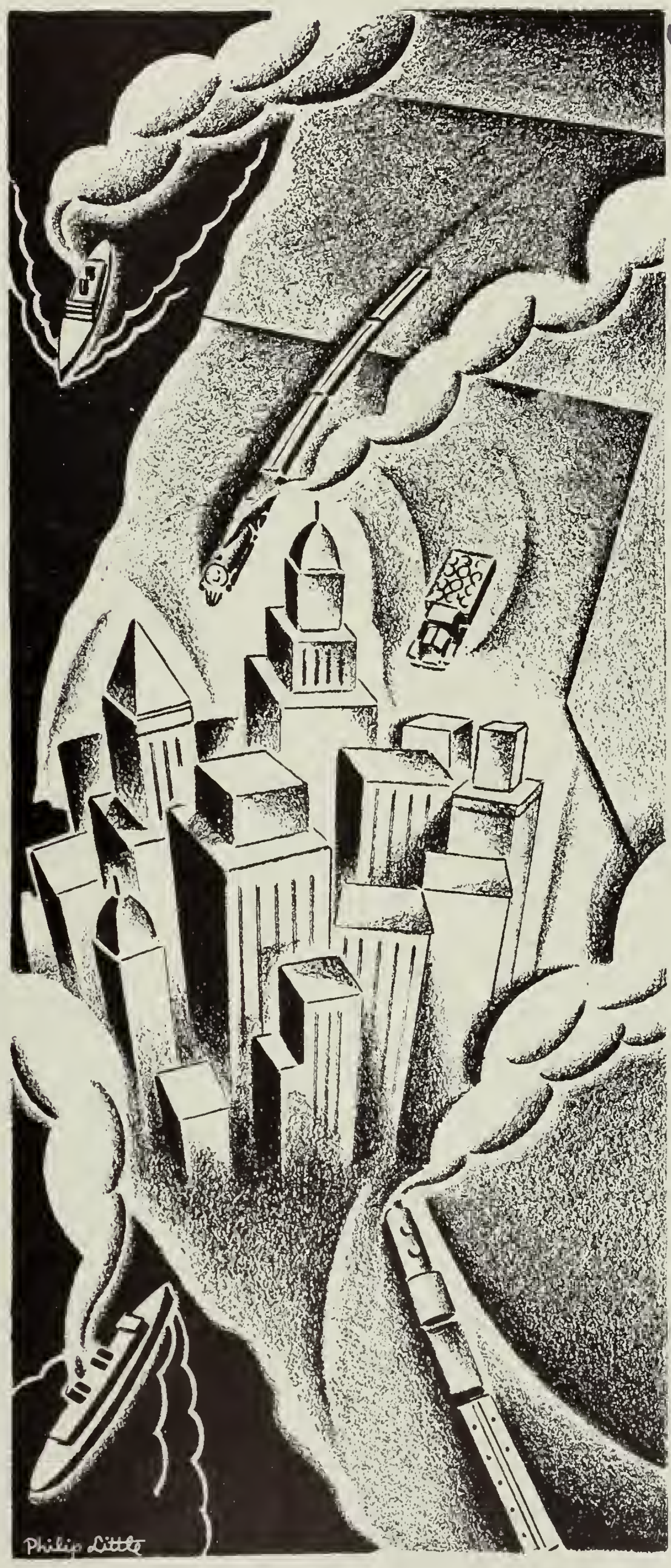

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WM. H. JACKSON COMPANY

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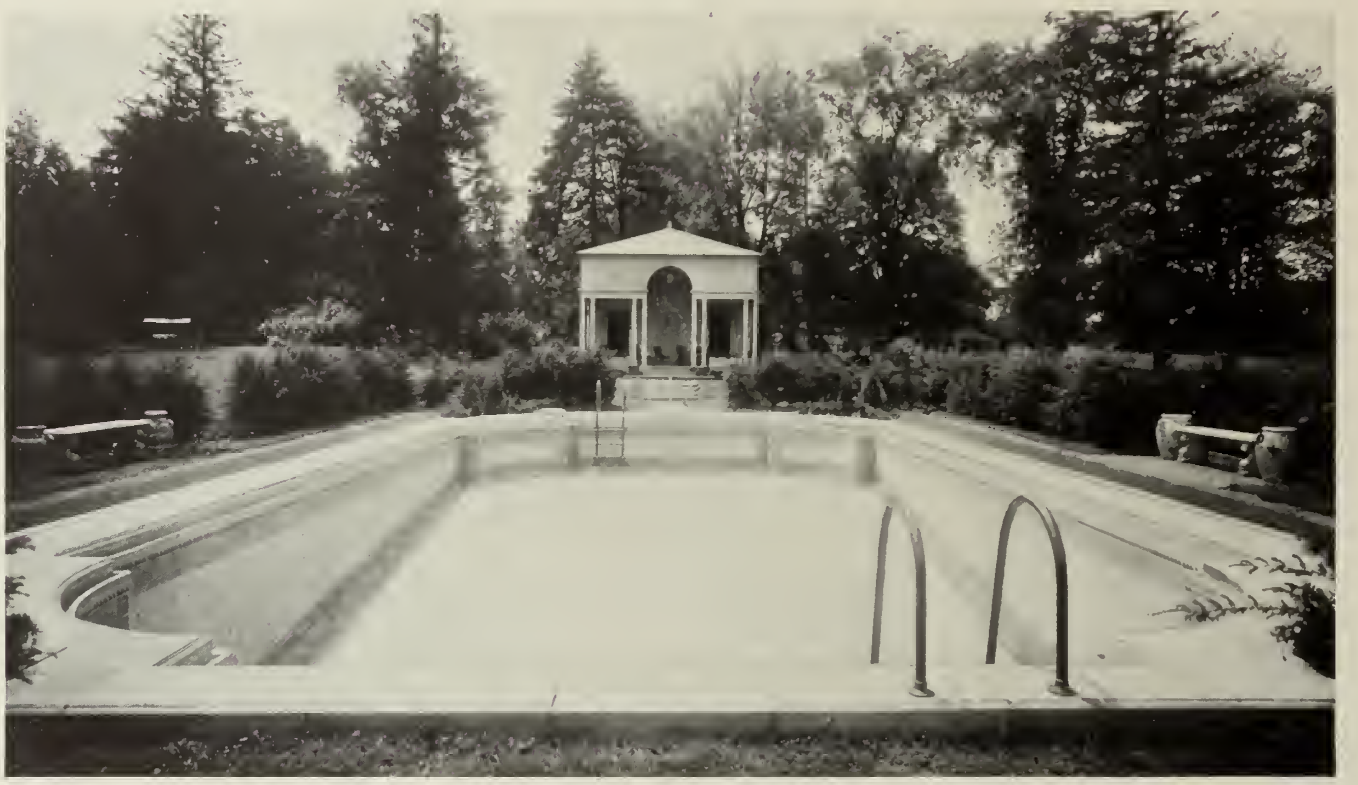

Exterior Pool designed and installed on a private estate—*Dwight James Baum, Architect*

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Condado-Vanderbilt Hotel	San Juan, Porto Rico
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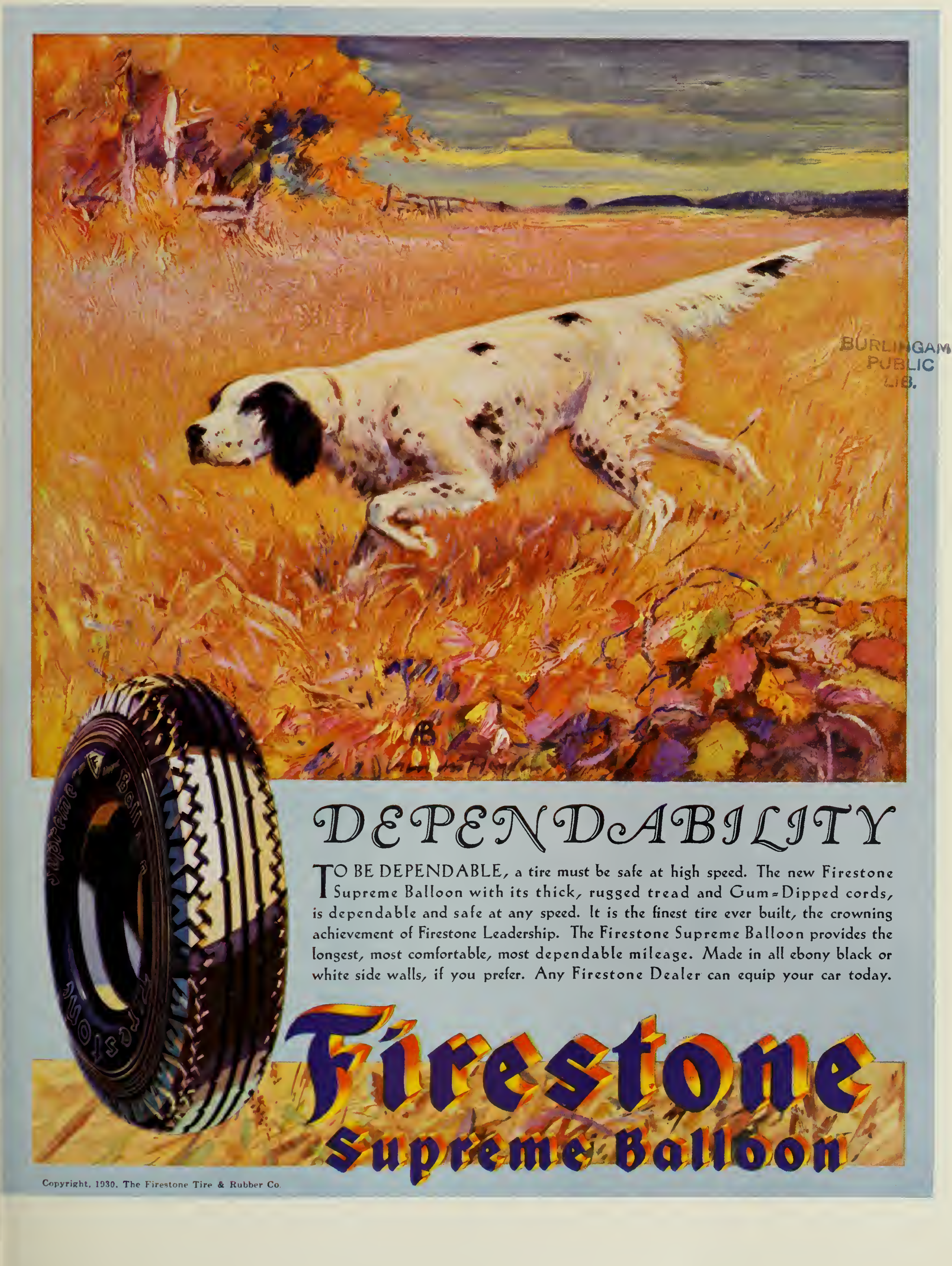

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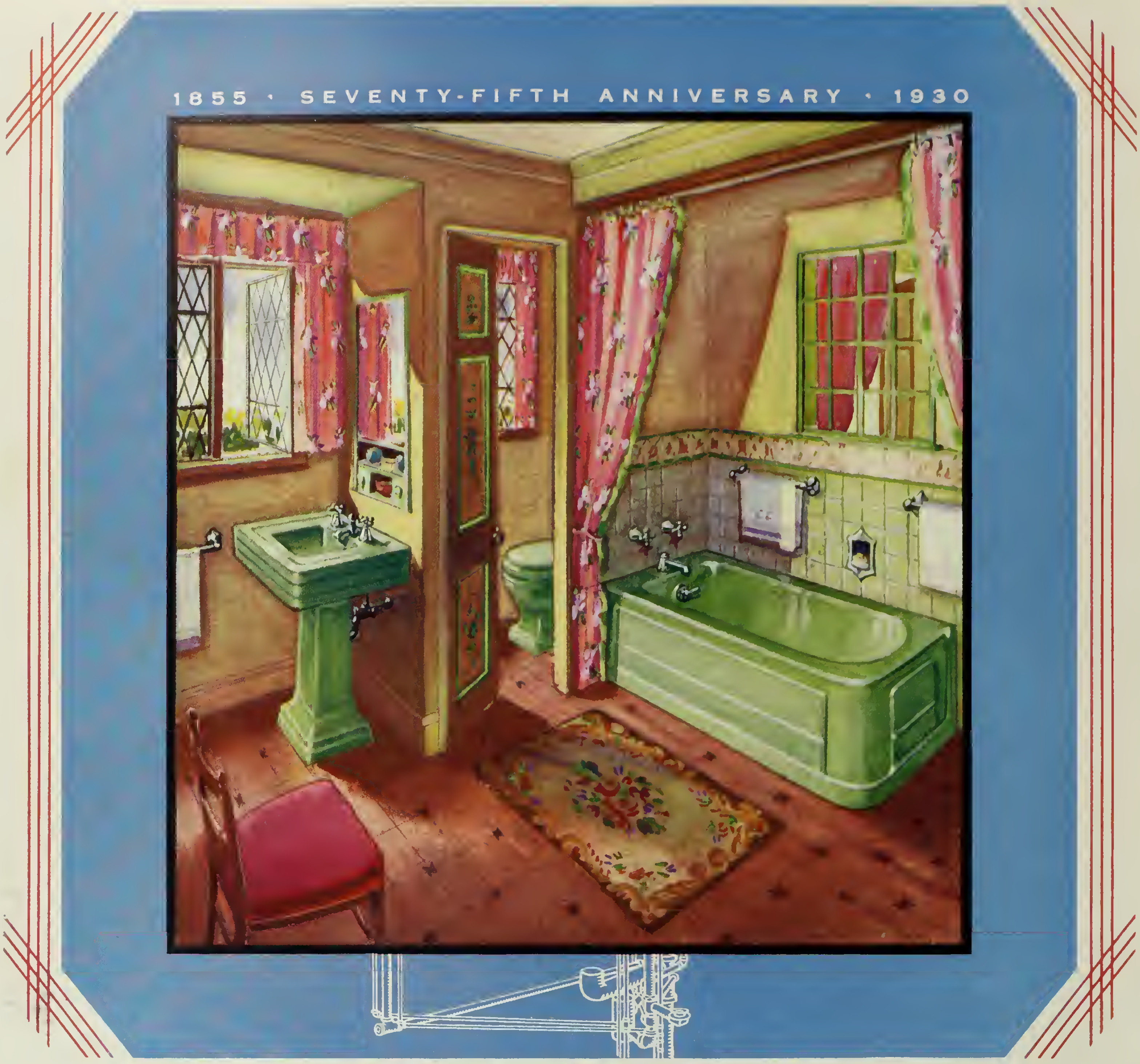

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In addition to the Institute at Nela Park, there is one equally large and complete at Harrison, N. J. Demonstration rooms are also maintained in all the offices of the National Lamp Works throughout the country for those interested in factory and store lighting. These demonstrations are made under the direction of trained lighting engineers whose services, without charge, are at the disposal of executives who are seeking the added efficiency, increased safety, and lowered costs which good lighting provide. National Lamp Works of General Electric Company, Nela Park, Cleveland, Ohio.

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Off the Record

Shorthand Note

JOHN ROBERT GREGG likes to make speeches. This is fortunate, because in recent years more than one banquet has been given in his honor. Notably, there was the Silver Jubilee Convention of the Gregg Shorthand Association held in Chicago in 1913, when Mr. Gregg's hair was both redder and thicker than it is today. And there was the fortieth birthday of Gregg Shorthand, celebrated with great conviviality in 1928 and subsequently shadowed by the death of Mrs. Gregg from pleurisy which she contracted while in Liverpool, birthplace of the Gregg system and scene of the convocation. During the birthday festivities both King George and the system were toasted, and Mr. Gregg was presented with an elaborate casket of precious metals, shaped, like Gregg shorthand itself, on the basis of an ellipse. There have been numerous other tributes paid to the inventor of the world's most widely employed shorthand system. Last June he was awarded the degree of D.C.S. (Doctor of Commercial Science) by Boston University. An idea of Gregg dominance may be secured from the fact that out of some 7,124 U. S. cities and towns whose high schools teach shorthand, more than 7,000 use the Gregg system. The Gregg Publishing Company of New York is the largest producer of commercial textbooks and business courses in the world and has just acquired 15,000 square feet of office space where, amid Jacobean surroundings, arrangements are being made to serve tea daily. The three Gregg magazines—the *Gregg Writer*, the *American Shorthand Teacher*, *El Taquigrafo Gregg*—have a combined circulation of more than 100,000 copies.

Anyone who imagines that Mr. Gregg has made his success in a freak or a mushroom calling has got quite the wrong impression of this thing called shorthand. Ever since groups of Roman scribes jotted down the remarks of the local Stentors (one scribe writing the first sentence while another took the second and so on), the study of rapid notation has been developed and ramified until today it has a truly academic aspect with a long and varied history and about as many grounds for disputation as Chaucerian scholarship. Among the great names are Dr. Timothy Bright, who dedicated his system to his contemporary, Queen Elizabeth; John Willis, who in 1602 published the first alphabetic system; Thomas Gurney, who modified the system of one William Mason in 1750 and whose descendants still use the Gurney method in their work as official reporters of the Houses of Parliament. Three very famous and divergent systems were offered by the German, Franz Xavier Gabelsberger, in 1834; the Englishman. Isaac Pitman, three years later; and the French priest, Emile Duploye, in 1868.

John Robert Gregg was born sixty-three years ago in northern Ireland. A friend of his father's named Annesley appeared during John Robert's boyhood and astonished the entire parish by taking down the local preacher's Sunday sermon in shorthand. He also astonished the preacher, who had plagiarized some of his most pious observations. Mr. Annesley's feat convinced Gregg Sr. that all five of his children should learn shorthand. This delighted John Robert, who was not very good in his other subjects but who won gold medals in this one and, while still a boy, carried on learned correspondence with some of the foremost shorthand experts of Europe. The more he studied shorthand—and he learned many systems—the more he became convinced that a new method was needed. It would involve a synthesis of several of the most attractive qualities of its forerunners. Like Taylor and Gabelsberger, unlike Pitman, it would require only one grade of line, no shading. Also unlike Pitman, it would require no position writing (the significance of the characters depending on their position above or below a line, etc.). Like Gabelsberger, it would have the natural slant of longhand, and like the Duployan system, it would use connective vowels. While working in a Glasgow lawyer's office, young Gregg devised a system called Script Phonography which approached this synthesis, but still used shading and position writing. He was later bilked out of his rights to this hasty invention, a bitter experience which prompted him to go on. To the shorthand convictions aforementioned, he added another—the most frequent combinations of letters should be symbolized by those combinations of lines which were most natural to the hand. In 1888, while he was teaching shorthand in Liverpool, he borrowed $50 from one of his brothers and published 500 copies of a pamphlet entitled *Light-Line Phonography—One Slope! One Position! ! One Thickness! ! !* In his preface the twenty-one-year-old author announced that "in presenting his work to the public he asks for nothing beyond an impartial investigation, and with perfect confidence awaits the result." The bravado of this utterance has been justified, for Light-Line Phonography is the Gregg shorthand of today. There were newspaper controversies to help its inventor to repute, and hard work in the U. S., whither he soon removed, where he took a wife, and where he has stayed.

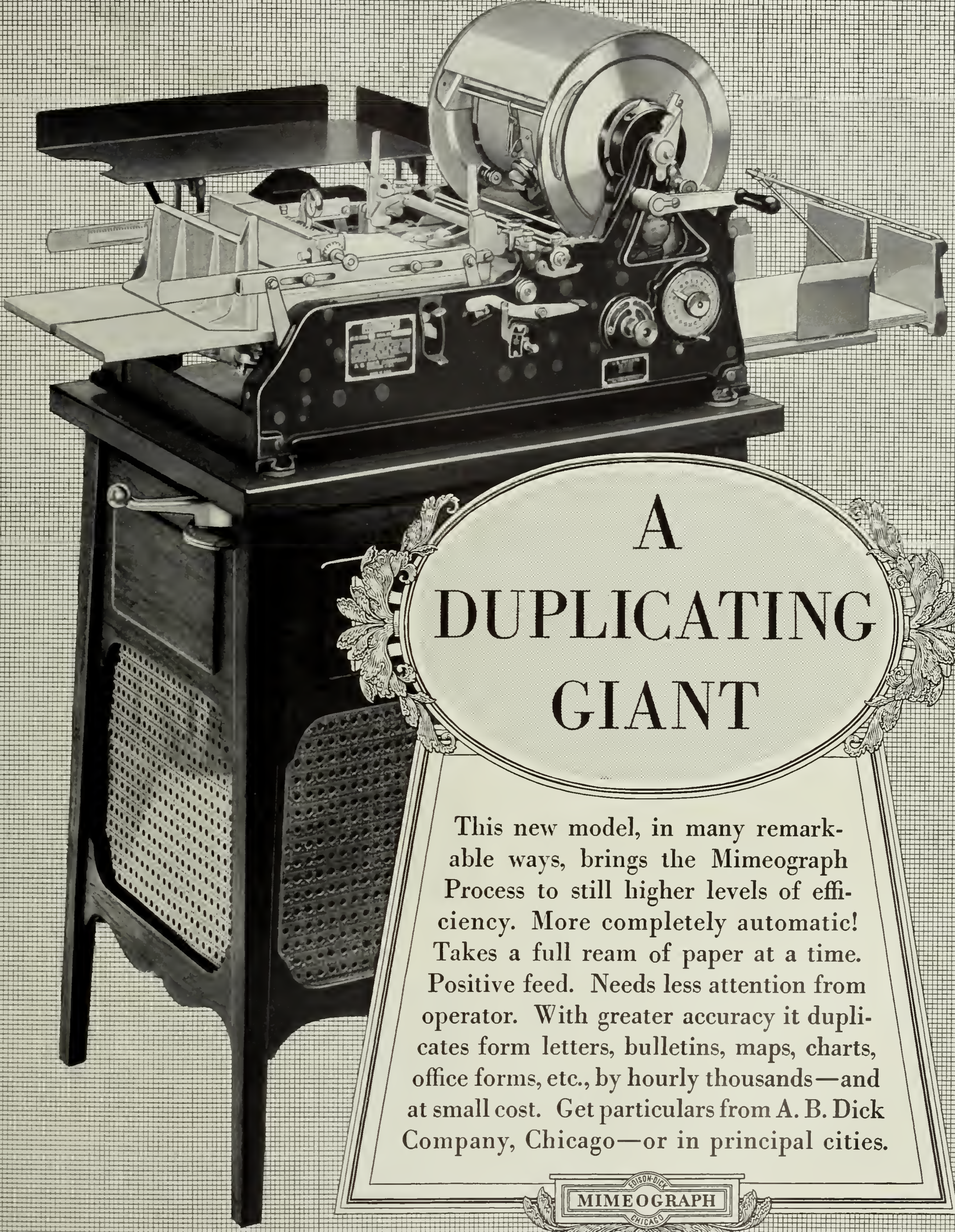
JOHN ROBERT GREGG

With a genial face and a sharp eye, he is still very busy, dresses meticulously (usually in brown to harmonize with his red hair), and is not bothered too much by his deafness unless he is tired or nervous. He now has business schools in Chicago and Toronto and thirty-five in the British Isles. He feels that woman's emancipation has been achieved through the typewriter. An indefatigable talker, both on the platform and informally, he and his wife used to entertain in a novel fashion. One night there would be a group of writers, the week following, several explorers, and so on. He visits England almost every summer, reading and playing deck quoits on the way over, and riding around to visit relatives in the Austin which he keeps in London. In New York he lives with relatives in Gramercy Park, but spends a large part of his spare time playing billiards at the National Arts Club. Two years ago he took up golf, disliked it, and thrust his clubs into his office cupboard where they remain. He does not care for flowers, of which many are placed on his desk, but is very fond of children, of which he has none. Like many another person hard of hearing, he has been prevented from enjoying the cinema by the invention of talking pictures. He is a humble, kindly gentleman with a sense of humor and a specialty which has made him modestly proud and quite well-to-do. Because of the last, he is an exception in his family, simple people with neither pelf nor heraldic mottoes. John Robert Gregg has not only made the Gregg money, but he has provided the Gregg motto. It is that of his schools, *Motu Labente Pristina Superavimus*—"By Easy Gliding Motion We Have Triumphed Over the Systems of Yesterday."

Sausage Saga

THERE is only one proper way of hanging strings of sausage on a rack, and if he has the time, Frank M. Firor, president of Adolf Gobel, Inc., will show you how to do it. But Frank (one permits oneself the familiarity since no one in his office has ever called him anything else) has very little time for anything other than business, and it is still a matter of self-congratulation to a trade paper writer that he was able to keep

[*Continued on page 20*]



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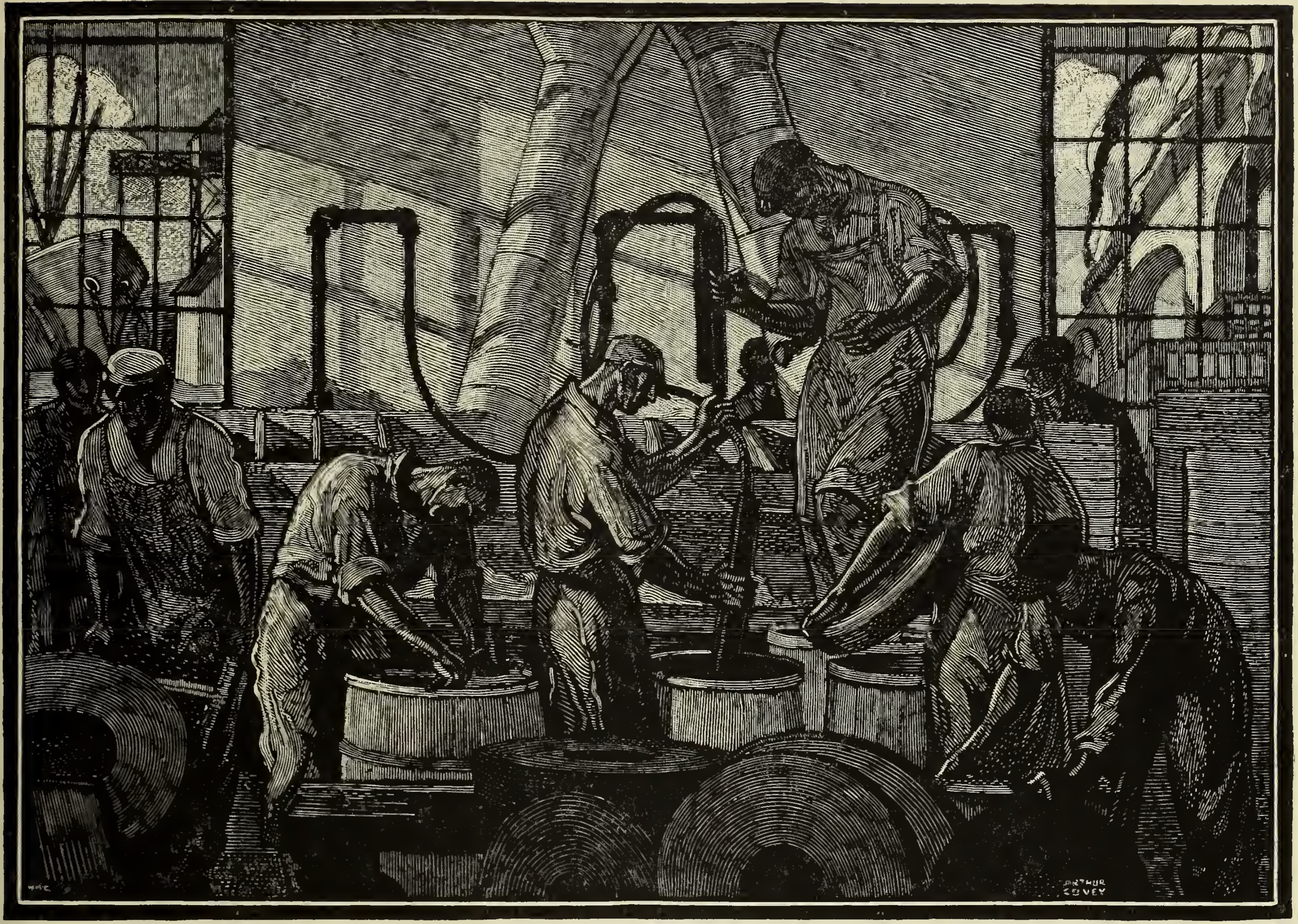

Wood block engraving by Howard McCormick from mural by Arthur Covey.

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A business problem may resemble a critical situation in golf, and have a similar outcome—"bad trouble followed by a fine recovery".

The formulation of the trade mark policy of one of the largest building material producers in America is a case in point,—the adoption of *one* national brand in place of *eight* local brands.

In 1924 the trade mark situation seemed hopeless. Two southern mills were selling one brand, a western mill another brand, and an eastern mill a third. Soon five other units were to be added with their local brands,—all tending to make a bad situation worse.

It is true that the local names had their assets,—a certain amount of good-will, esprit de corps, established earnings. The liabilities, however, seriously outweighed the assets:

1. The prestige of the company was not comparable with that of its three dominant competitors.
2. The local organizations lacked institutional background and institutional spirit.
3. The company was paying, in duplication and waste, for lack of unified advertising and inability to use national publications.
4. They were handicapped in selling an engineer or contractor in a distant city who had never heard of the local brand.
5. The position of the company in matters of finance was also affected to some extent by the trade mark situation.

Hence, the company faced an almost endless number of problems which could only be solved by scrapping the local names around which a volume of $14,000,000 had been established.

Viewing this situation broadly, one may ask a number of obvious questions:

"If earnings were satisfactory and growing each year, why consider a change?"

"If there were compelling reasons for a change, why the delay?"

"Was it necessary for outside consultants to interest themselves in the matter; didn't the management see the advantages of one name over many?"

"If the management approved the unification idea, why not take action at once?"

The answer to the last question is the answer to the others: The key men in the business clearly saw the disadvantages of many local names, but no specific recommendation had been submitted that a majority could accept.

As in most problems, the final solution was simple; it grew out of the background of the business.

When in 1918, a group of New York bankers sought a man to reorganize three ailing mills, they canvassed the United States; and in Texas finally found the man they wanted, who as manager of a southern mill had set a new standard in quality of product, personnel and service.

Around him in 1919 they had organized the corporation with which we are concerned. In five years the business had grown from 2,500,000 units to 6,700,000. What he had done with the Texas business, he had trained his lieutenants to do in other markets with other subsidiaries, each with its local brand.

So it seemed wise to propose, as the national brand, the trade name used in Texas which was the symbol of his first success.

A few weeks later a report embodying this idea had been enthusiastically approved by each executive in New York, each member of the Executive Committee and the Board of Directors.

How the name was introduced, invested with meaning, and endowed with prestige is a separate story—the growth of a $28,000,000 volume on the basis of service.

This case illustrates one advantage of employing advertising consultants who work on a sound fee system. When the above trade mark problem was analyzed in the Cowan & Dengler office it took precedence over other matters. The use of commissionable space was actually discouraged in the face of an unsatisfactory corporate situation.

In this project, as in all questions affecting the client, his needs alone governed the work. What is more conducive to such a point of view than the unbiased character of the fee system?

An explanation of the Cowan & Dengler fee system and examples of its practical value will be sent on request to interested executives.

COWAN & DENGLER

ADVERTISING • MERCHANDISING • SALES COUNSEL

NEW YORK

....IF YOU WANT STABLE MARKETS

WITHIN Cleveland's *immediate* trade territory are twenty-seven thriving industrial cities; 3,000,000 people; more than 5,000 manufacturing plants, employing more than 250,000 workers and paying $600,000,000 a year in wages. This great business community is bound together by railroads, traction lines, paved motor roads and, above all, common commercial interests. Employment is steady, labor skilled, wages satisfactory, and prosperity remarkably uniform.

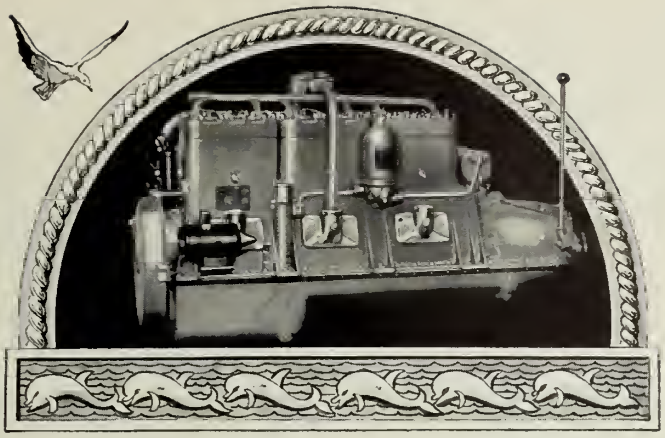
¶ To the manufacturer seeking a point where the maximum market will be reached along the shortest lines of operation, or where a distributing office or branch may be placed most strategically in an immensely wealthy district, Cleveland offers unusual opportunity.

¶ For specific data regarding the stability of the market of which Cleveland is the natural capital, write this Bank.

© G. T. Co.

GUARDIAN TRUST COMPANY CLEVELAND OHIO

RESOURCES MORE THAN $165,000,000



A. C. F.*
BANFIELD
CHRIS-CRAFT*
CORSAIR "36"
DART*
DITCHBURN*
GAR WOOD "40"
HACKERCRAFT*
KING SEA-SKIFFS
LUDDCO DREAM BOATS*
MATTHEWS*
MINETT-SHIELDS
ROBINSON SEA GULL
SEA LYON "40"*
STEPHENS
SUNBEAM "46"
WHEELER "PLAYMATES"*
Foreign
BRITISH POWER BOATS
OSBORNE-CRAFT--*England*
CLAUS CRAFT--*Germany*
CHANTIERS NAVAL
EXCELSIOR
DESPUJOLS--*France*
ORTHOLAN--*Argentine*
*Optional

DEPENDABLE POWER

The wide acceptance of SCRIPPS motors by so many prominent builders of standardized craft who offer them as standard or optional equipment is significant of SCRIPPS unfailing dependability.

Fifteen models—15 to 200 Horse Power
High speed and medium duty.

Interesting literature will be mailed on request

SCRIPPS MOTOR CO., 5844 LINCOLN AVENUE, DETROIT, MICH.

SCRIPPS

· THE MOTOR THAT CROSSED THE ATLANTIC ·

A Personal Invitation to Hotel Hollenden

THE Hotel Hollenden is ideally located for the convenience of the visitor whether he is in Cleveland on business or pleasure. Within a block or two of the Hollenden will be found the leaders in practically every activity of the city. Just a block or two away are the theatres, the shopping centers, the banks, the Public Auditorium and the principal office buildings. Located right in the heart of things, the Hollenden has for decades served the requirements of the most discriminating visitors. Anything that is required of a good hotel may be found at the Hollenden. You are cordially invited to make the Hollenden your home when you are away from home. The Crystal Dining Room and the Hollenden Coffee Shop offer a variety of good eating places.

Sincerely yours,

Theo DeWitt
Vice Pres. & Gen. Mgr.

In Cleveland-it's The
HOLLENDEN
THEO. DE WITT.
Vice Pres. and Gen. Mgr.

Nauheim itself is the only other spot on earth where The Glen Springs' famous treatments can be duplicated . . . Bathe in the natural Nauheim brine—drink the radio-active waters—let your whole system derive the inestimable benefits of a carefully-planned restorative schedule . . . Meanwhile, of course, golf—fishing—shooting—and a wonderful cuisine. For booklets, address Wm. M. Leffingwell, Pres., The Glen Springs, Watkins Glen, N. Y.

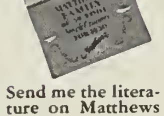
GLEN SPRINGS

THE AMERICAN NAUHEIM

Matthews Cruisers *are* STAUNCH ENOUGH *to Laugh at Any Weather*

38 Matthews
MATTHEWS 46

You can take a staunch, rugged Matthews out to sea in any kind of weather. They are built to ride out anything that blows. Their husky hull design, their carefully molded underbottom construction, their smart bow flare insures a world of safety, cushions shock and guarantees a fine turn of speed. And for actual roomy comfort aboardship their design is without a counterpart. Large clothes lockers, extra large berths, completely fitted galley-kitchen, carefully arranged toilets and handsomely appointed cabin interiors combine with well proportioned deck spaces to provide you with every cruising comfort and convenience. If you've never inspected a Matthews "38" or "46" you cannot possibly appreciate the exacting values built into these handsome, long-lived hulls. A choice of ten models in twenty-four varying arrangements gives you a boat to match every cruising need.



Send me the literature on Matthews Cruisers without obligation today.

THE MATTHEWS COMPANY
Designers and Builders of Boats of Distinction . . . Since 1890
324 Bay Side Port Clinton, Ohio

ONE YEAR AGO

SPOKANE
SUN-GOD
BUHL WHIRLWIND 300

A Record and a Plane.. by Buhl

ON August 21, 1929, the Sun God—a Buhl Standard Airsedan—landed in Spokane, Washington, having flown 7,200 miles from there to New York City and back without a stop, refueling in the air. This record was hailed at the time as a supreme achievement—the sternest test conceivable of man and plane. It assumes new significance today—its first anniversary—for records in these changing and hectic days of aviation are fragile things, at best of slight duration, *and this historic flight has not been equalled in twelve long months* though many have attempted it. Surely, there can be no more convincing evidence of Buhl superiority than this lasting exploit in the air—by Buhl alone. May we refresh your memory with an illustrated brochure that fully describes it?

BUHL AIRCRAFT COMPANY
MARYSVILLE -:- MICHIGAN

WHETHER YOU FLY FOR FUN OR FAME OR FORTUNE

Upon the conclusion of this momentous flight, Lieut. Nick Mamer wired, "... remarkable features of durability, stability and comfort Stop ... performance at high altitudes under varying weather conditions carrying heavy overload was non-comparable." Lieut. Mamer now operates the International Air Transport Company, highly successful commercial airline between St. Paul and Spokane. It is significant that the only planes he flies ... and the fleet will number nine on the completion of scheduled deliveries ... are EXCLUSIVELY AIRSEDANS.. by Buhl

Off the Record—*Continued*

Mr. Firor at his desk for a fifteen-minute interview last year. Mr. Firor is president of a company which produces 1,248 items of meat, which has packing houses in Manhattan, Brooklyn, Washington, D. C., Pennsylvania, and the Mid-west, which in 1929 had net sales of $46,032,417, and yet some of Mr. Firor's earliest small retailer customers still telephone him personally when they make their orders. "So hurry the fresh liver rings and the braunschweiger, Frank, as I am fixing up sandwiches for my lodge." Or, "I need a case, Frank, of the jellied pork tongues." And Frank will listen and the order be executed.

FRANK M. FIROR

Mr. Firor is fifty-eight years old. He was born on a farm in Graceham, Maryland, of parents whose German ancestors had settled in the U. S. some 250 years ago. For a while he clerked in a village store, then became assistant to his father-in-law, a Washington, D. C., baker. It was then that he discovered that although he loved sandwiches and ate them continually (he still does), he did not like the delicatessen meats. So with no experience but with several ideas he went to New York and got a job in the butcher shop of George Kern (at about the same time Adolf Gobel was launching a rival concern in Brooklyn). The business of Mr. George Kern grew and with it the responsibilities of Mr. Firor, who became a buyer, then vice president, and then president. In 1926 Adolf Gobel, the president of the rival and parallel concern, died and Lehman Brothers, who acquired the concern, began calling on Mr. Firor. In 1927 the two companies were merged, and Mr. Firor became president of the combined unit. His first action as such is interesting. He promptly called a meeting of the truck drivers of the two companies, who had long been embattled and bitter rivals (most of the company's sales are for cash and most of them are distributed by the company's own trucks). "Now see here," said President Firor, "it's one family now. I'm working for one company and so are you. And if I find any of you who don't—then I get in the scrap." Whereupon he took off his coat and rolled up his sleeves. It pleased the men enormously, and there is no record that Mr. Firor has ever had to prove his fisticuffing abilities.

. . .

Far different from Gobel's but worthy of mention with it is the sausage business of the Jones family in Fort Atkinson, Wisconsin. It was started quite accidentally, for the original Milo Jones, after he had left his natal Vermont and settled in what is now Wisconsin, intended only a dairy farm. The cooking of his wife, known far and affectionately as Aunt Sally, however, won much praise, most of which was directed to her sausages. Years later when Milo was dead and Milo II was stricken with arthritis and unable to attend to the dairy, the Jones descendants remembered Aunt Sally's sausages and the formula thereof and began to make them for sale. At first power was supplied by an old and willing horse who walked round and round in a circle outside the kitchen window while the Jones mills ground slowly. The trick then was that the Joneses filled their sausages with good and otherwise marketable meat whereas other sausage dealers used an inferior quality for their sausages. "Most little pigs go to market, but the best little pigs go to Jones . . . " sang their advertisements a few decades later. Slowly at first the sausages sold. But the years brought railroads to Wisconsin, and as the

[Continued on page 26]

MANSION

BURLINGAME
PUBLIC
LIB.

AND COTTAGE

THIS NEW STANDARD OF LIVING COMFORT APPLIES TO BOTH ‹‹

The most interesting phase of the nation-wide growth of Gas Heating s its popularity with both "Mass" and "Class". Most commodities of an investment nature are limited in their appeal to a restricted section of our population. Here is one that reaches the great majority. » In the small home occupied by the family of modest means the complete elimination of the time and labor of furnace-tending is the major appeal of gas heating. » In the large residence where wealth esides the absolute and healthful uniformity of inside temperatures, egardless of weather fluctuations outside, is the deciding factor. » How great a market is thus made available to gas companies, hrough the use of automatically-controlled, gas-designed boilers and furnaces, is self-evident. » Progressive gas companies are alertly alive to this opportunity and are aggressively cultivating it.

THE BRYANT HEATER & MANUFACTURING CO.

7854 ST. CLAIR AVENUE · CLEVELAND, OHIO

BRYANT GAS HEATING

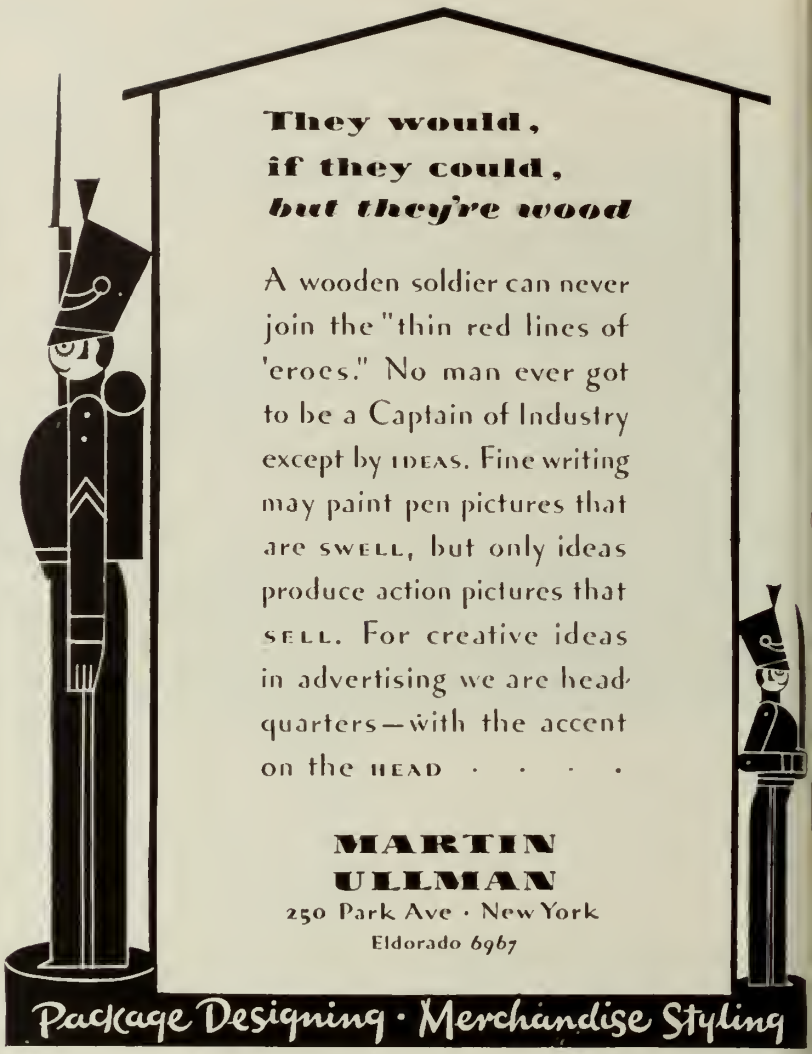
...lets your pup be your furnace man

© 1930, BHMC

Alfred Nelson Co

580 FIFTH AVE. N. W. Corner 47th Street NEW YORK

We are noted for making the finest strictly hand-tailored to measure *all occasion attire* for *men* and *cross saddle* riding and hunting *kit* for *women.*



They would,
if they could,
but they're wood

A wooden soldier can never join the "thin red lines of 'eroes." No man ever got to be a Captain of Industry except by IDEAS. Fine writing may paint pen pictures that are SWELL, but only ideas produce action pictures that SELL. For creative ideas in advertising we are headquarters—with the accent on the HEAD . . . .

MARTIN
ULLMAN
250 Park Ave · New York
Eldorado 6967

Package Designing · Merchandise Styling

SW & Co
A NATIONAL ORGANIZATION FOR CONSTRUCTIVE SERVICE

Scovell Wellington
and Company

ACCOUNTANTS · ENGINEERS

10 East 40th Street, New York City

BOSTON CLEVELAND CHICAGO PHILADELPHIA
SPRINGFIELD SYRACUSE KANSAS CITY SAN FRANCISCO

VIOLA ROOT CAMERON
Genealogist
ESTABLISHED IN 1913

FAMILY HISTORIES
COMPILED AND PUBLISHED

COATS OF ARMS

CORRESPONDENCE INVITED

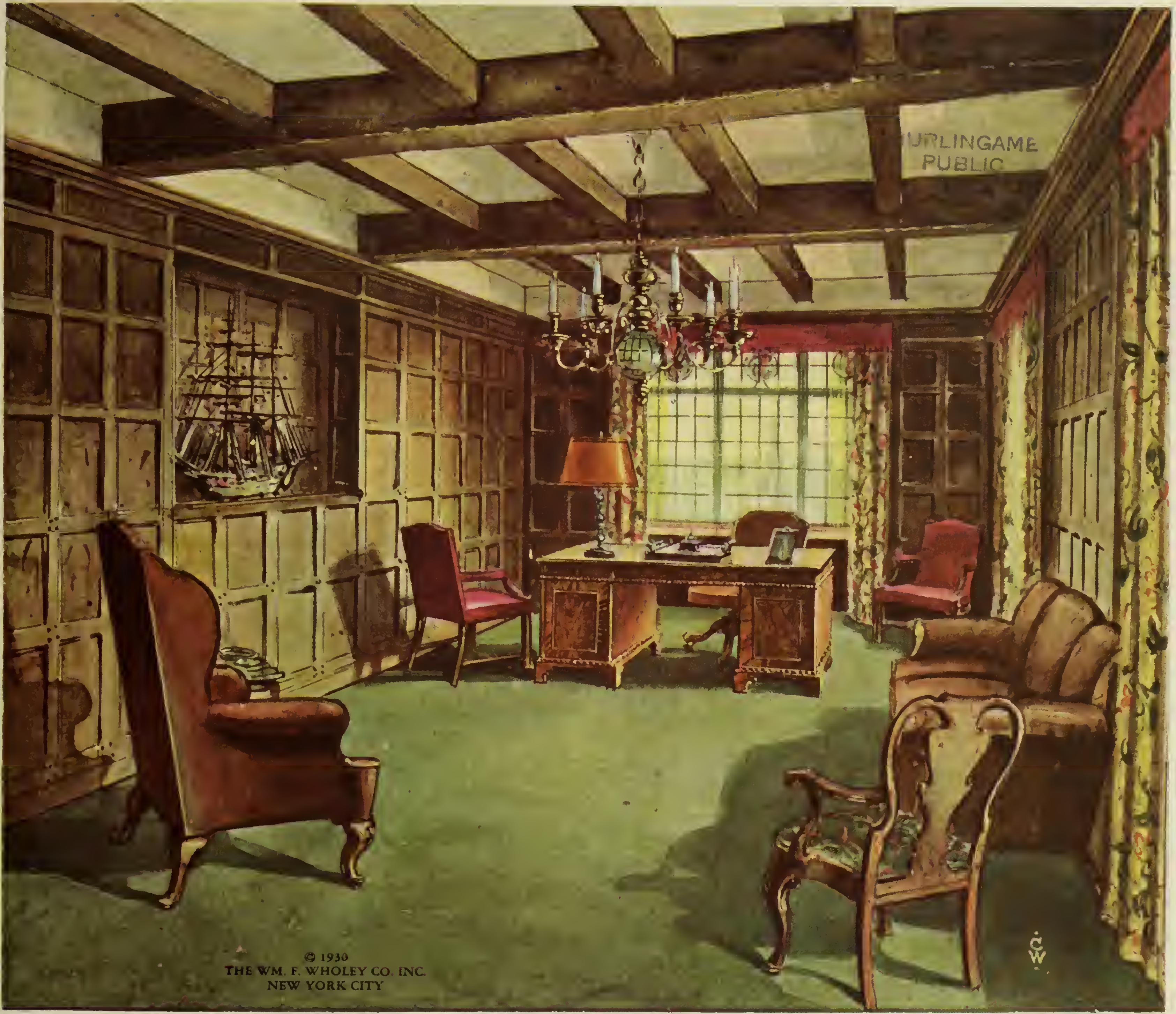
521 FIFTH AVENUE
NEW YORK

57 CHANCERY LANE
LONDON

MAYFLOWER HOTEL
WASHINGTON, D. C.

PARIS BERLIN

WHO *wouldn't* DO BETTER WORK IN SUCH A *livable* OFFICE?



URLINGAME
PUBLIC

High above the city's din, overlooking sparkling waters, guarded by Liberty's proud torch, is the restful office of
MR. W. H. BAKER, *President*, MERRITT-CHAPMAN & SCOTT CORPORATION

A COMFORTABLE, harmonious room in which to *live* during one's important working hours, is no longer considered a *luxury*.

The business home of good taste is now recognized as a sound investment, capable of producing large dividends in better individual work, better representation of one's company or position and better impression upon one's visitors.

Pioneers in the creation of *livable* offices, this organization now designs, builds and furnishes business homes of distinction, coordinating every detail so thoroughly as to assure a completely satisfying result, with economy of outlay.

Studies of individual requirements and visual suggestions are gladly made, without obligation, for the type of men who read "FORTUNE"

The WILLIAM F. WHOLEY CO. *Inc.*

Equipment Specialists
11 East 36th Street, New York

Office Furniture ~ *Interior Decoration* ~ *Office Planning*

THE *protection of a Fortune is usually assured by the creation of a planned investment program which is designed to meet the Investor's individual needs.*

WE OFFER YOU THE FACILITIES OF
THIS INVESTMENT ORGANIZATION

STONE & WEBSTER
AND BLODGET
INCORPORATED
NEW YORK · BOSTON · CHICAGO · PHILADELPHIA

people ate more Jones sausages they brought more demands to the Joneses. The descendants of Milo found themselves rich enough to advertise and big enough to build a plant. There are members of the third, fourth, and fifth generations of them now living in Fort Atkinson on the Jones farm. They are all well and all happy. So much success with a sausage . . . !

Ewald's Three in One

NOBODY can really blame Mr. Henry Theodore Julius Charles Frank William Ewald for having abbreviated his name to Henry Theodore Ewald. Most of his family was present at his christening, and most of them wanted their names carried on to another generation. His father and mother compromised by pleasing everybody and giving him half a dozen names, but today Mr. Ewald has the greatest difficulty in remembering them or the order in which they appear.

Mr. Ewald was once a newsboy, then a shipping clerk with the Detroit & Cleveland Navigation Company, and then with a young man named Frank James Campbell he went into the advertising business. Mr. Campbell had just founded a small agency with one General Motors account. Today Campbell & Ewald handles most of the G. M. accounts, which make for 90 per cent of the agency's business and which are also sufficiently large to place the agency among the country's five largest.

Mr. Campbell now spends most of his time traveling. Mr. Ewald still spends most of his time pondering the affairs of Campbell & Ewald and can quote, without reference to data, ancient business figures which most executives would have filed and comfortably forgotten. Mr. Ewald's chief diversion is golf, and this year probably marks the pinnacle of his golfing career. For while it is sometimes given to man to make a hole in one, it is rarely given him to make three in the same year. This feat Mr. Ewald has accomplished. The third caused him almost as much embarrassment as pleasure. For he made it at the Bloomfield Hills Country Club, of which he is a member. And he had previously offered a silver cup to each member who made a hole in one. Mr. Ewald could not figure out whether he should present himself with his own trophy. The board of governors, however, put him out of the difficulty and gave him a cup.

Currier & Ives Renaissance

Their prints of sporting scenes and rural life are probably the most famous. Very popular in its day was the print, "Home for Thanksgiving," and a series of western prints titled "American Frontier Life" also enjoyed considerable vogue. Remembered by most Southerners is the Currier & Ives print of the famous race between the two Mississippi river-boats, the *Natchez* and the *Robt. E. Lee*. The firm of Currier & Ives, publishers of prints, was founded as N. Currier in 1834 by the late Nathaniel Currier. His friend, the late Mr. James M. Ives, joined him in partnership several years after the founding. The prints of no American firm are as well known as theirs, and their discovery and acquisition still make the joy of sportsmen and collectors. After the death of the Messrs. Currier and Ives, the business of the firm was carried on by their sons, but in 1907 the firm ceased operations.

Three years ago, however, the house of Currier & Ives was reborn. President of the new Currier & Ives, Inc. (with which no Ives is associated) is Mr. Everett R. Currier, a distant relation of the original Nathaniel, once connected with the Harvard University Press, a member of the Grolier Club, and known among typographers as a printer of excellent books. During 1930 and 1931 his firm carrying on the old tradition will produce a series of American sporting prints drawn by Mr. J. W. Williamson and Mr. Everett Henry. Among the subjects will be the 1930 International Yacht Races, the Dempsey-Tunney boxing match at Chicago, Gallant Fox winning the Belmont. The first of these, which FORTUNE reproduces in full color on page 36 of this issue, shows Robert Tyre Jones Jr. winning the 1927 British Open Golf Championship at St. Andrews. The drawing is by Mr. Williamson. Its appearance coincides with Mr. Jones' most successful golfing year.

The Message *that doesn't* Connect

Guessing
at the Kind of Advertisements
that *Your Prospects will*
Respond to is like trying
to knock a Home Run
Blindfolded

BURLINGAME
PUBLIC
LIB.

It doesn't matter how powerful a batter may be, or what a long, heavy bat he swings; unless his eyes are wide open, he might just as well be sitting on the bench.

You, the advertiser, step up to the plate with the strength of a big appropriation in your muscles, waving the long, heavy bat of product superiority. But, are *your* eyes open? Will your advertising messages connect?

You sit at your desk and the copy and the layouts are spread out before you. You try to visualize your prospects. You ask yourself whether these are the sort of advertisements that will strike their attention, connect with their interest. Yet, in spite of yourself, your final decision is really based on the appeal of those advertisements to *you alone.*

But suppose that by some miracle a typical group of your prospects was right there in the office with you. Then how accurate your choice could be. You could hold up before them a wide variety of advertisements and, when they told you which interested them most, you would *know* which were the ones to run.

There would be no chance of wild, misdirected, expensive swings, no chance of messages that failed to connect.

Instead of preparing one set of ads and taking a chance on their being profitable, we in this agency prepare several sets and we put into every individual advertisement as much thought and skill as if it were the only one to be produced.

Then, before one dollar of our client's money is spent for costly art work, plates and space, we find out which of these many advertisements will be most effective in making sales. Hence, every message published is a message that connects.

You could spend no more interesting half-hour than going over actual instances of ads that won and ads that failed. George Enzinger of Milwaukee, or J. W. Lee, Jr. of New York would be more than glad to show some of these fascinating records to you and your associates.

DYER-ENZINGER COMPANY, INC.
New York · Chicago · Milwaukee

EIGHT YEARS IN AN EAGLE'S NEST

That is the story, in brief, of two A. B. A. travelers cheques issued to George Walker by the Montrose National Bank of Montrose, Colorado. Lost in September, 1920 they were carried on the "missing" ledger of the A. B. A. until December, 1928, when B. D. Reazin returned them to the bank of issue, with the report that he had found them in an eagle's nest near Butte, Montana . . . five hundred miles from the place where they had originally disappeared.

The cheques were still unimpaired. Eight years of western sun and snow had made no impression upon their tough fibre. Such amazing durability yields to but one explanation — the cheques were made on Crane's Bond, the 100% new white rag paper that has been the leader of the Crane line since 1801.

Time . . . weather . . . an eagle's talons . . . take no toll of its excellence.

CRANE'S BOND

CRANE & CO · DALTON, MASSACHUSETTS

A Statistical Survey

AUDACIOUS indeed is the traveler who still inquires: ". . . and how is business?" Audacious, too, the organization that would attempt to learn more than has been told by the Federal Reserve Banks, the larger statistical services, and such lone bulls as the itinerant Mr. B. C. Forbes. Last month the wide-flung Paramount Publix Corp. displayed such audacity and decided to find out for itself just what the state of trade is and when it will improve.

In 398 cities (although only forty-one states) are 1,100 Paramount theatres. Each theatre has a manager. He is sure to be a fairly intelligent man, likely to be a college graduate. He has multiple contacts in his community, for in feeling the amusement pulse he must feel all others. He is a big depositor in a local bank, and therefore can obtain the bank president's honest opinions. While he helped create the 65 per cent increase in Paramount's earnings for the first half of this year, he would prefer that Paramount have no false impressions regarding prosperity in his region lest his results seem less notable. Considering this composite person, Paramount put its probe into his hands.

This was done by sending each manager a questionnaire. Five of its six questions dealt with specific matters. The results obtained from the answers differ only slightly from other reviews. But the replies to Question 6, giving bankers' opinions on when a change might be expected, were more interesting and constitute the investigation's most valuable contribution. As might perhaps have been prophesied, the majority of bankers said they expected better conditions in the fall. Exactly a quarter either saw no improvements in sight or expected none till spring of next year. Approximately one-seventh thought conditions were already improved. On a percentage basis, the tabulation of opinions showed:

	Conditions already changed for better	*Expect change for better in fall*	*Expect no change till spring, 1931*	*See no prospects of improvement*
TOTAL UNITED STATES	14	61	11	14
NEW ENGLAND	24	60	6	10
MIDDLE ATLANTIC	4	59	15	22
EAST NORTH CENTRAL	7	65	17	11
WEST NORTH CENTRAL	21	57	9	13
SOUTH ATLANTIC	12	57	21	10
EAST SOUTH CENTRAL	18	55	18	9
WEST SOUTH CENTRAL	11	62	3	24
MOUNTAIN	4	75	4	17
PACIFIC	9	55	9	27

The other five questions gave a composite picture of the nation's condition, and likewise showed interesting geographical divergences from the average:

No. 1—Are stocks of goods in merchants' hands above normal, below normal, or about the same as June, 1928?

Sixty-three per cent of the replies said below; 11 per cent better. On the Pacific Coast, no answers indicated inventories were above 1928, while in the Middle Atlantic States 18 per cent of the answers told of increased stocks.

No. 2—Ask your local banker if savings are being accumulated from current incomes?

"Yes," said 75 per cent of the bankers, the lowest percentage being the South Atlantic State's 60.

No. 3—Is general business better, worse, or the same as at this time last year?

Seventy-eight per cent of the opinions were "worse," only 8 per cent "better." The Pacific Coast was unanimous in its answer that business is worse.

No. 4—Is general business worse, better, or the same as it was two years ago?

More significant than the answers to Question 3, the replies to this indicated a 72 per cent opinion that business is worse. Nineteen per cent said that it is the same.

No. 5—Is unemployment in your vicinity greater, less, or about the same as in June, 1928?

While the Pacific Coast unanimously took the most pessimistic view, only 74 per cent of the replies agreed; 23 per cent said unemployment is the same; 3 per cent less.

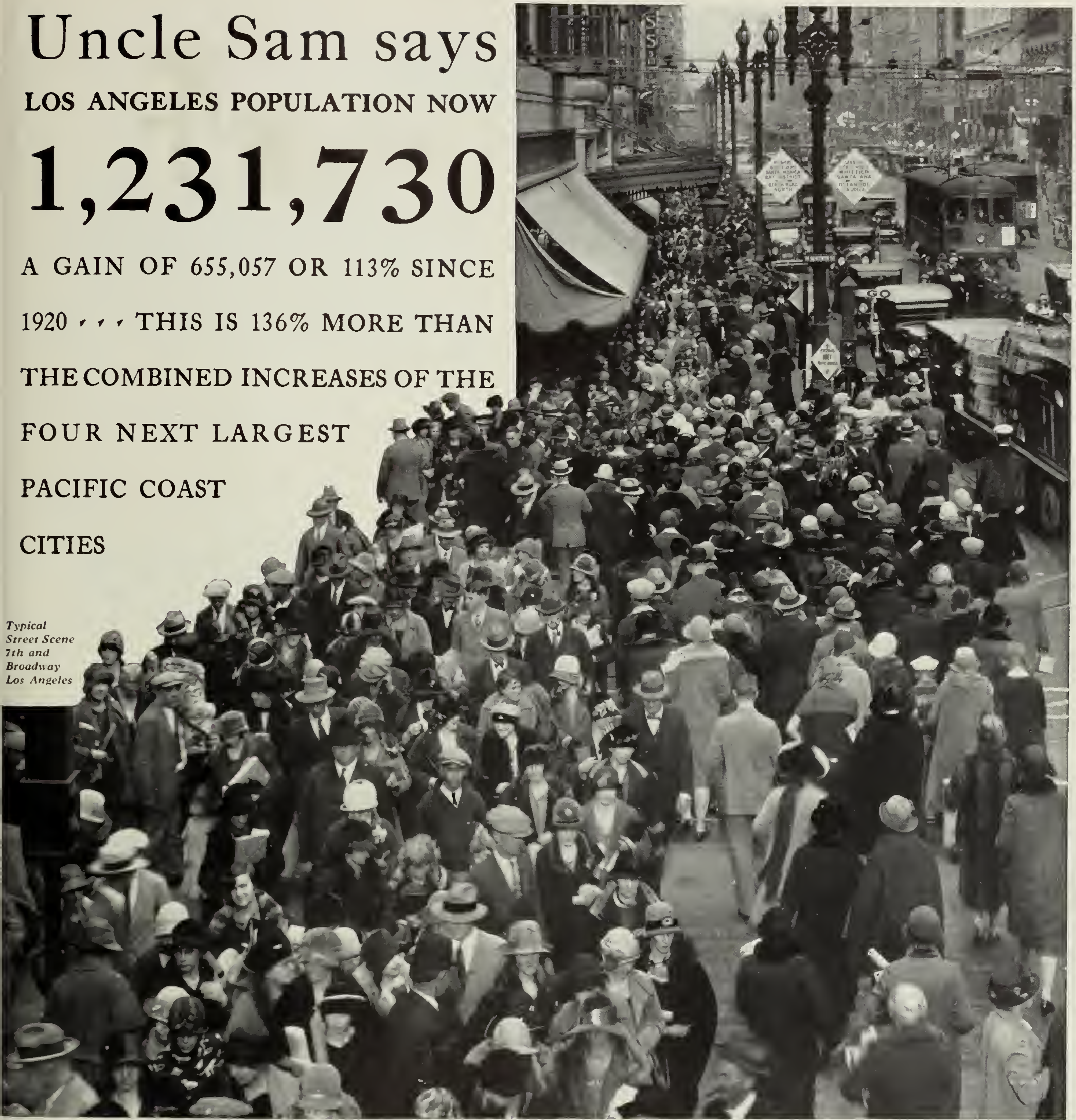
BURLINGAME
PUBLIC
LIB.

Uncle Sam says

LOS ANGELES POPULATION NOW

1,231,730

A GAIN OF 655,057 OR 113% SINCE 1920 , , , THIS IS 136% MORE THAN THE COMBINED INCREASES OF THE FOUR NEXT LARGEST PACIFIC COAST CITIES



Typical Street Scene 7th and Broadway Los Angeles

Industrial Los Angeles *County*

POPULATION 2,199,657

MANUFACTURING EXECUTIVES ARE INVITED TO WRITE TO THE INDUSTRIAL DEPARTMENT, LOS ANGELES CHAMBER OF COMMERCE, FOR DETAILED INFORMATION REGARDING THIS GREAT WESTERN MARKET

"Modernization" – Profit's Fountain of Youth

FOR industry also "youth is not a thing of supple knees," but the faculty of meeting the new order with new methods and new devices for better production—at a profit.

In your plant also, profit will be earned in proportion to its modernization in methods as well as machines.

It is a subject of huge importance which deserves examination. Perhaps we can assist you with facts out of successful experience.

J. E. SIRRINE & COMPANY
Engineers
Greenville South Carolina

ART IN INDUSTRY

In connection with the opening of their new first floor and the painting therefor of murals by Mr. Boardman Robinson, the Kaufmann Department Stores, Inc. of Pittsburgh, Pa. announces a prize essay contest on the subject "Art in Industry", the prize to be $1,000 and the prize-winning essay to be published in a forthcoming issue of FORTUNE. Among the judges will be Mr. Norman Bel Geddes, Mr. Joseph Urban, Mr. Edgar Kaufmann.

Rules of the Contest

(1) The Contest is open to anyone (excluding employes of Kaufmann Department Stores, Inc. or Time, Inc.) who submits an essay of less than 5,000 words which deals with some particular phase of or with the general subject of Art in Industry.

(2) The contest opened Saturday, May 31, 1930. All manuscripts must be in the hands of the Art in Industry Contests Editor, Kaufmann Department Stores, Inc., Pittsburgh, Pa., by midnight, Saturday, January 31, 1931. Manuscripts received after January 31 will not be considered.

(3) The prize-winning essay will be published in a forthcoming issue of FORTUNE.

(4) The essays will be judged by a committee which will include Mr. Norman Bel Geddes, Mr. Joseph Urban, Mr. Edgar Kaufmann.

(5) All manuscripts must be typewritten and have the name and address of the contestant in the upper left hand corner of each sheet of paper.

(6) Only one essay may be submitted by each contestant.

(7) Prize for the winning essay will be $1,000. In case of tie, each winner will receive the full amount of the prize. All information regarding the contest may be obtained from the Art in Industry Contests Editor, Kaufmann Department Stores, Inc., Pittsburgh, Pa.

(Signed)

Kaufmann Department Stores, Inc.
Fifth Avenue Pittsburgh

BURLINGAME
PUBLIC
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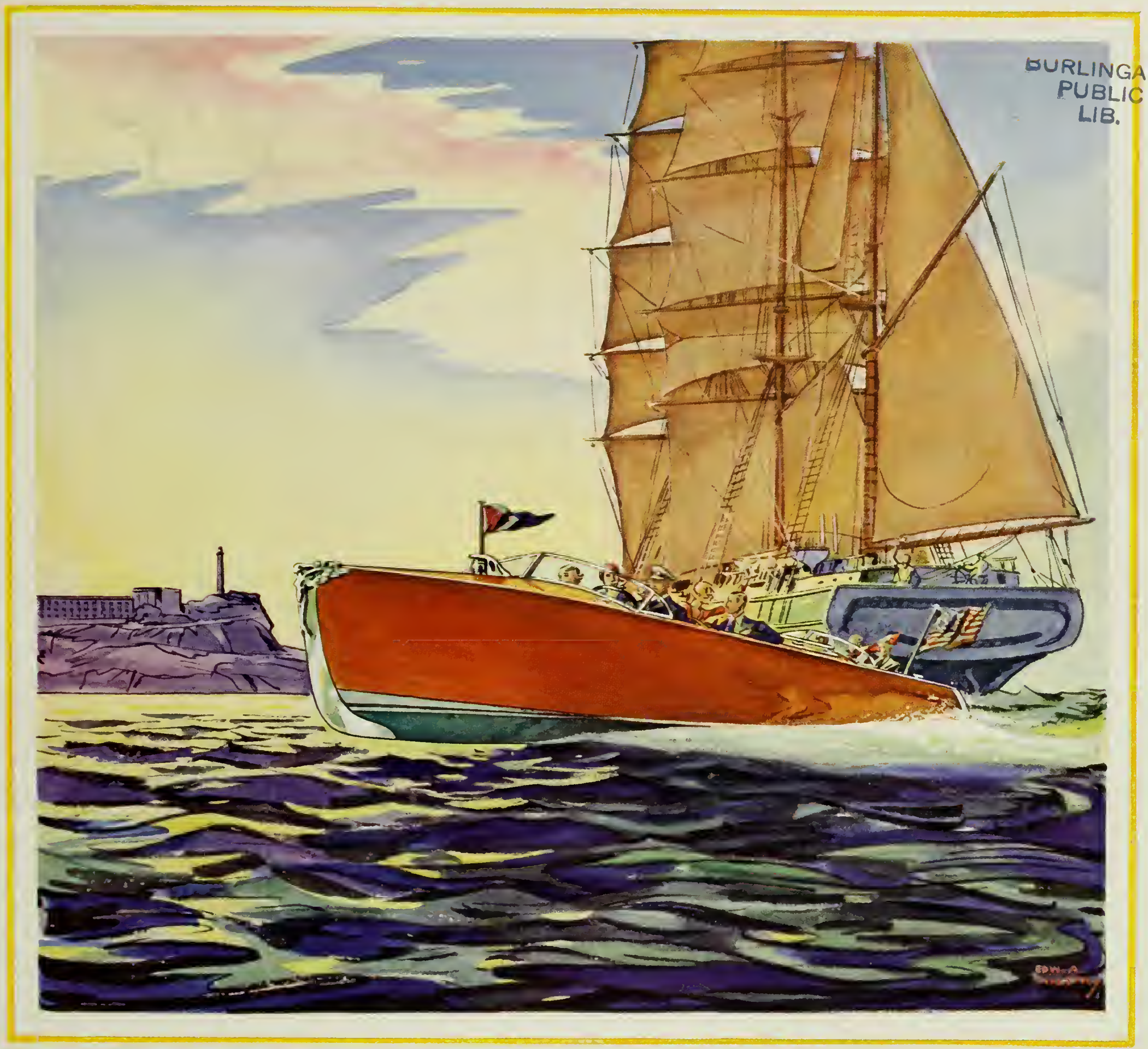

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The first long distance highway motor transport to demonstrate its utility to the American public was the now famed Goodyear Akron-to-Boston Express.

The successful operation of this transport paved the way for general acceptance of the pneumatic truck tire, in the development and perfection of which Goodyear pioneered.

As roads and engines have improved, the need for higher truck speeds and lower tire costs has called imperatively for a new type of truck tire for new conditions.

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P. W. Litchfield
President

GOOD

Volume II

Fortune

Number 3

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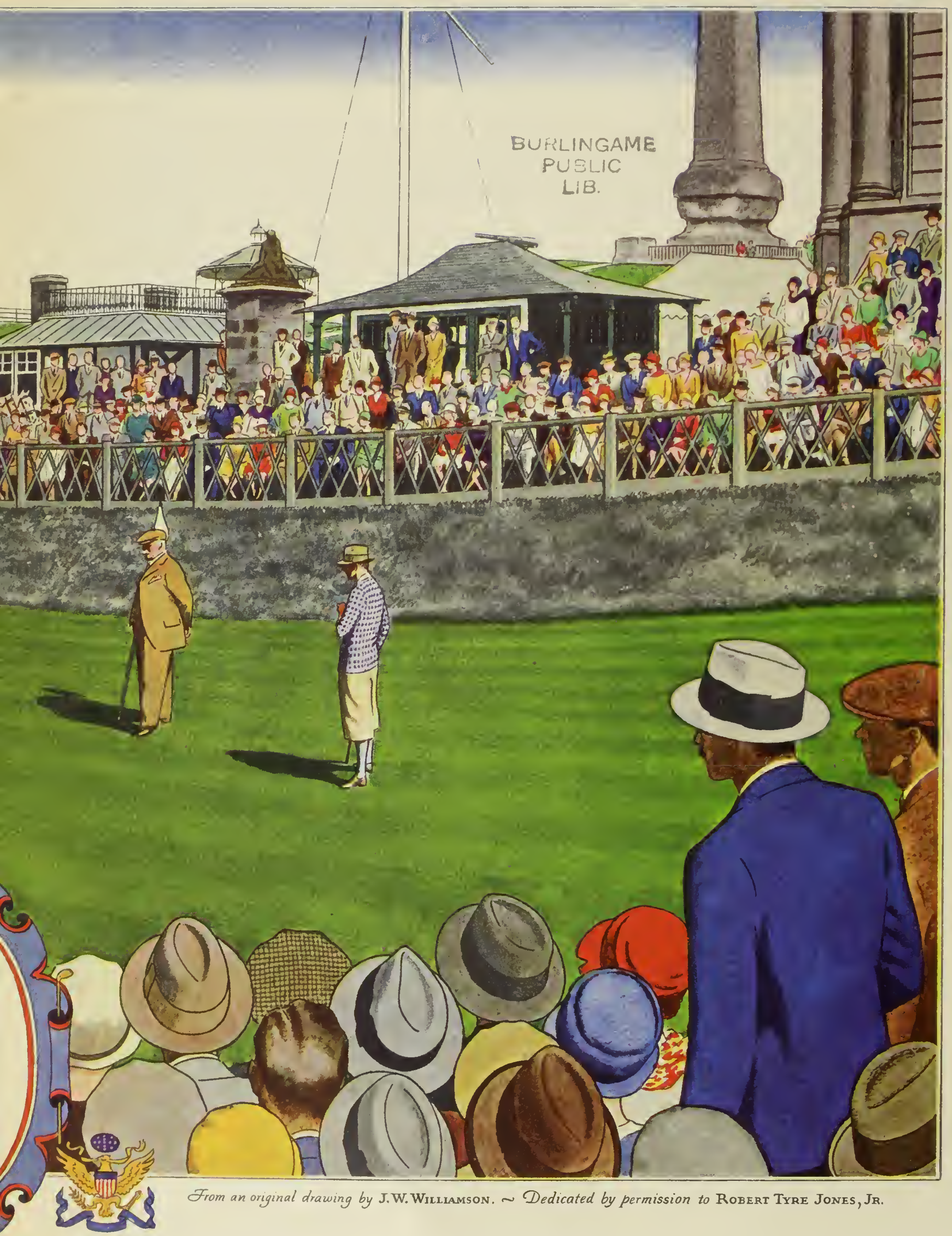

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British Open Golf Championship

RMISSION OF CURRIER & IVES, INC.

*Total score 285 strokes for 72 holes,
being six strokes lower than ever
scored previously in the British Open*

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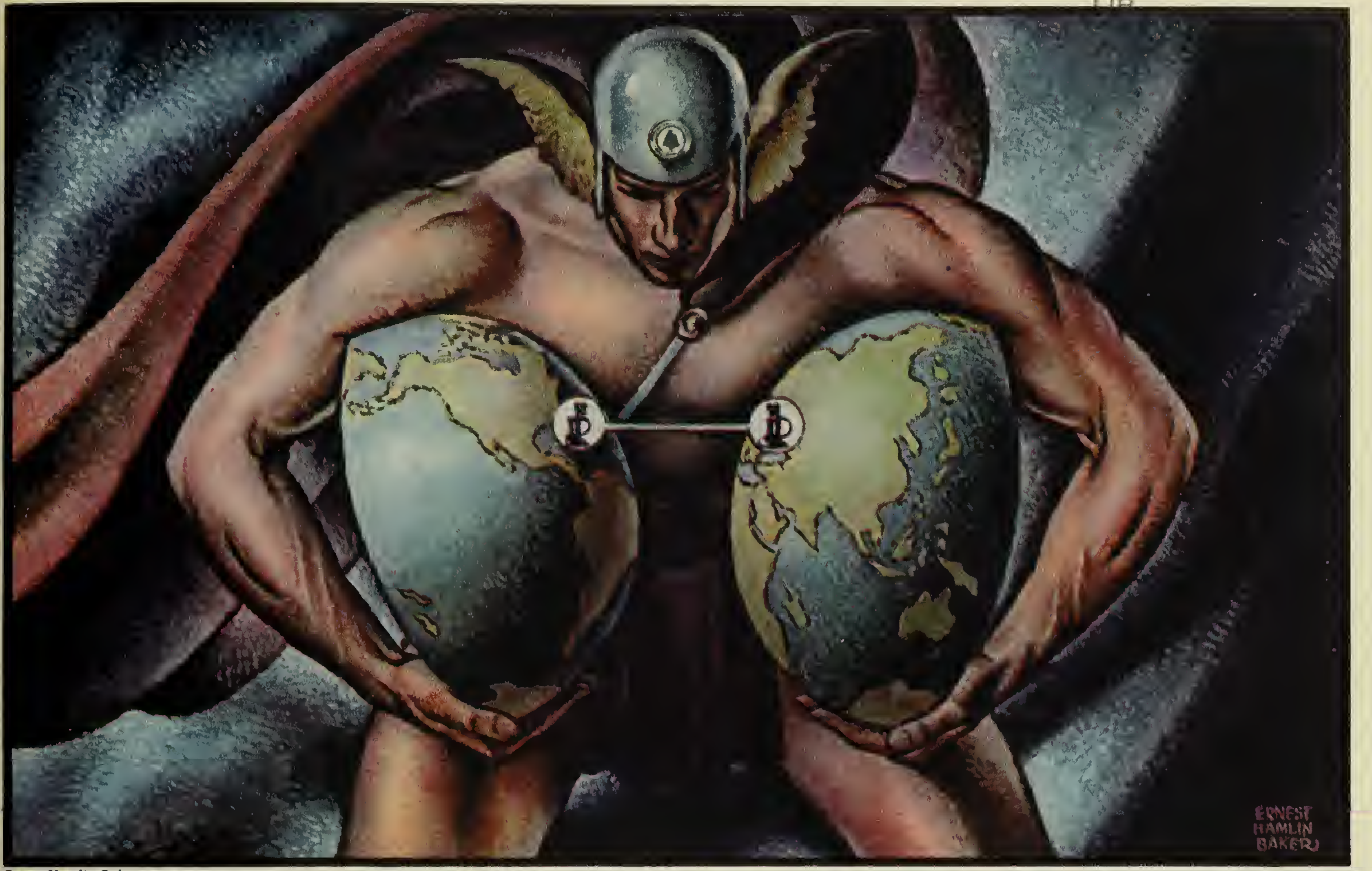


Ernest Hamlin Baker

World's Biggest Corporation

A study of A.T.&T. common stock. The central fact is a social philosophy which one type of financial mind is congenitally unable to grasp.

ONE of America's dozen greatest industrialists was asked what stocks he would buy if he had $500,000 and no more to invest in common stocks.

"I would put," said he, "$200,000 in American Telephone & Telegraph . . ."

It is such statements as this, repeated in modified form dozens of times daily, that justify the characterization of A. T. & T. as the premier stock of the entire U. S. If a small investor insists upon buying common stock, he is likely to be told: "A. T. & T." If a great capitalist finds himself with several hundred thousand to put away, he is likely to think, "Well, in the long run, I can't do better than A. T. & T." In short, it would seem that there is almost no investor in a great nation of investors for whom A. T. & T. is not appropriate.

This inquiry will concern itself with the almost universal favor in which the Telephone stock is held. For this favor presents an extraordinary paradox.

Let it be immediately insisted upon that the proper approach for a study of the Telephone company involves Telephone securities rather than Telephone telephones. The telephones are there, of course—15,500,000 of them—and the owner of a share of Telephone stock is, from one standpoint, the owner of a fraction less than one telephone and its accessory plant. Neither have we the slightest intention of writing an A. T. & T. market letter and discussing at what figure one should make one's commitments and at what figure one should unmake them. It is the paradox, a financial curiosity and a sociological fundamental, with which we are concerned. Put in its simplest terms, the paradox is this: Wall Street likes the stock for a particular reason which the company says is absolutely invalid. Wall Street says that present earnings of A. T. & T. would permit a higher dividend or that, at any rate, future earnings will ultimately necessitate a larger return to stockholders. The company says this simply is not so.

There can be no question of the sincerity of the company. It is committed to a policy of distributing excess profits not to stockholders in cash but to its public in service—a policy expressed time and again, most officially by President Walter Sherman Gifford, who said in 1927 at Dallas, Texas:

> It . . . would be contrary to sound policy for the management to earn speculative or large profits for distribution as "melons" or extra dividends. On the other hand, payments to stockholders limited to reasonable regular dividends with their right, as the business requires new money from time to

> time, to make further investments on favorable terms, are to the interest both of the telephone users and of the stockholders.
>
> Earnings must be sufficient to assure the best possible telephone service at all times and to assure the continued financial integrity of the business . . . Earnings in excess of these requirements must either be spent for the enlargement and improvement of the service furnished or the rates charged for the service must be reduced. This is fundamental in the policy of the management.

Note well the word "earnings." Mr. Gifford is dealing with fundamentals, not details. He pledges his company not to increase its earnings beyond the point of fair returns to stockholders, which point he considers already reached. Beyond a "fair return" Mr. Gifford pledges all profits to the public, *not* to the stockholders. In March, 1928, Mr. Gifford wrote his 1927 report to stockholders and repeated, almost in the same words, the gist of his Dallas message. And an official of the company, speaking at a Bell System conference in October, 1928, followed Mr. Gifford's platform through to its logical implication with the statement that:

> The emphasis we place is not upon giving the last possible cent to the stockholder as soon as we can get it to him . . . A lawyer once phrased it that in the Bell System the public was the residuary legatee of all benefits, whereas in most businesses the stockholder was the residuary legatee of all benefits. That is an accurate description of our motives.

Now it is true that nearly all corporations—and particularly large corporations—are likely to mention their duties to their public, and it is especially true that a utility—and a very monopolistic utility—would be more than likely to make pronouncements concerning its social responsibility. But the flat statement that the public and not the stockholder is the "residuary legatee of all benefits" attacks the theory of private management in that theory's most tender portion. What is the function of a company's management, if it is not to make as much money as possible (and as soon as possible) for the stockholders? Who owns the company, including its excess profits, if not the stockholders? Wall Street values a stock in terms of earnings per share, more or less regardless of dividends per share. Wall Street always considers undistributed earnings as a barrel that will some day be tapped for the benefit of the corporate family. How, then, can the securities of a company which runs flatly counter to this investing tradition be more popular than the securities of companies which exhibit a whole-hearted devotion to split stock and extra dividends? According to the policy of the Telephone management, A. T. & T. common is essentially to be regarded not as a common stock, but as a bond with a high yield or as a preferred stock with a good yield. Yet during a period in which the investing public was extraordinarily common-stock minded (and with a strong bias toward common stocks in their more speculative aspects) Telephone stock rode buoyantly along on the wave of market inflation and was purchased by many an investor at prices which left him a return on his investment of approximately 3 per cent. Here, then, is a double contradiction. A privately owned corporation announces that its primary allegiance belongs to the people who buy its service instead of to the people who buy its stock. And after making—and reiterating—this announcement, it easily retains its position as the corporation with the most widely distributed securities in the world, its stockholders numbering more than 500,000, including a large portion of the investment trusts and capitalists of the U. S.

BELL SYSTEM

Age.—June 2, 1875, fifty-five years ago, the first telephone conversation over electric wire took place between Alexander Graham Bell and Thomas A. Watson. In 1877 Somerville and Boston were connected by one telephone wire.

Most critical age.—Not until litigation with Western Union, culminating in the famous settlement of 1879, was the patent protection of the Bell System assured. This made it possible for the American telephone system to develop monopolistically.

Present fortune. — Assets — $4,250,000,000; debts—$1,250,000.000; reserves—$1,000,000,000; net worth—$2,000,000,000.

Present income.—	Receipts	$1,115,000,000
	Expenses	838,000,000
	Interest	60,000,000
	Profit	217,000,000

Source of income.—15,500,000 phones owned; 4,500,000 phones connecting in this country. Dividends from Western Electric and investments in Canada and in certain connecting companies.

Offspring.—(1) Western Electric Company with total sales of $411,000,000 in 1929, profits on these sales of $27,000,000.

(2) International Western Electric, to the loss of which the parent Western Electric was reconciled in 1925 through a payment of some $30,000,000 by its near cousin, International Telephone and Telegraph.

(3) Electrical Research Products organized in 1926 for participation in sound and radio developments.

(4) Graybar Electric Company, wholly owned subsidiary of Western Electric Company, largely non-telephone equipment, sold in 1928 to its employees.

Annoyance.—Rumors of stock split-ups, distribution of Western Electric and Electrical Research Products stock to its own stockholders.

Mature philosophy.—The public is the residuary legatee of all profits above a fair return to stockholders.

• • •

But before looking more closely into this apparently anomalous situation it is advisable to explain, briefly, what the American Telephone & Telegraph Co. is. No man has ever made more than a brief explanation. For one thing, a complete statement (besides defining electricity) would have to account for the 450,000 workers who spend their days and nights in Bell telephone service. Briefly, the Telephone company is a corporation lodged in its own conservatively impressive building on Broadway at Fulton. Just to the north, across Fulton Street, is St. Paul's Chapel, with its little cemetery which callous custom and obvious convenience have turned into a public park. If you are a Telephone man, your eyes are likely to travel farther afield and look toward West Street, where the ponderous tower of the New York Telephone Co. bulks up across a stretch of low buildings from which it rises like a medieval castle against the mean roofs of a village. Then you may realize that this building is only one example among thousands of telephone buildings throughout the country and that in this building and its companions more than 147,000 girls sit before switchboards and say "Thank You" nearly 70,000,000 times a day. Because only a fragment of the Telephone plant can be seen on any given occasion, it is difficult to visualize that plant as a unit. Yet if everything that the Telephone company calls *assets* were suddenly changed into gold, there would be three times as much of the precious metal as would result if everything that General Motors calls *assets* underwent the same Midas-like transformation. The Telephone business is the biggest business in the world. Almost the only comparison to it is that other and even more complete utility monopoly operated by the federal government and known as the U. S. Post Office.

In addition to being a giant, the Telephone company is an independent giant. It began life as a patent monopoly, like the Aluminum Co., and—also like the Aluminum Co.—might very well have come under the domination of one or another of its early backers. But there were no Mellons among the Bostonians who furnished its early capital, and except for an otherwise surprisingly large New England representation on its directorate, it has long outgrown its founders. Nor has any banking Jack climbed any financing bean-stalk to hew the giant down. The company has amicable relations with many bankers, including the House of Morgan, but no one has ever underwritten any of its stock issues and it sits under no golden thumb. In its formative stage in 1876 it tried to sell itself to Western Union, but the telegraph company (in what now appears as one of the major stupidities of modern economic history) did not think telephones worth $100,000 and so failed to make an investment which has now grown to be 42,000 times that. Even since that early day the Telephone company has stood on its own feet, and they have always grown bigger. Today with some 500,000 stockholders averaging about thirty shares each and not one holding more than seven-tenths of 1 per cent of the stock (largest holders are Sun Life Assurance and George Fisher Baker), the management of the company is responsible only to its board of directors, which is dominated by no bank, no *interest*, no controlling clique. It is important to remember this point in view of Mr. Gifford's resultant ability to practice what he preaches in the way of a fair return on invested funds.

And, finally, the Telephone company is nearly a monopoly. There are three major divisions in the telephone business. One is

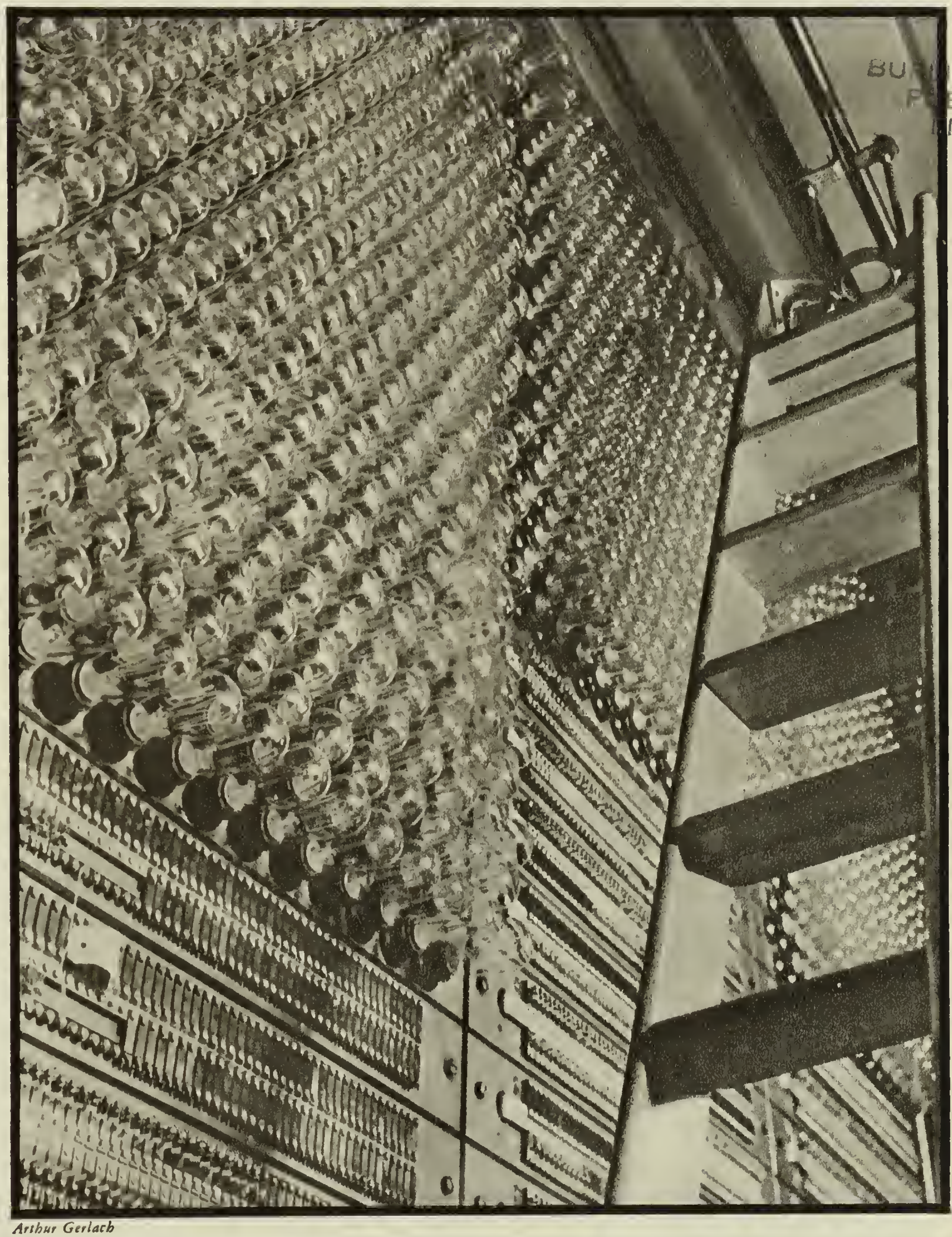
A. T. & T. One is the Bell System. One is Western Electric, Inc. To confuse them is possible but not excusable. A. T. & T. is partly a holding company, partly an operating company, partly an organization for research and for service. As an operating company, it operates the long lines. As a holding company, it owns approximately 93 per cent of the common stock of twenty-one operating telephone companies of the Bell System in the U. S. These companies are:

- New England Telephone and Telegraph Company
- Southern New England Telephone Company
- New York Telephone Company
- New Jersey Bell Telephone Company
- Bell Telephone Company of Pennsylvania
- Diamond State Telephone Company
- Chesapeake and Potomac Telephone Company
- Chesapeake and Potomac Telephone Co. of Baltimore City
- Chesapeake and Potomac Telephone Co. of Virginia
- Chesapeake and Potomac Telephone Co. of West Virginia
- Southern Bell Telephone and Telegraph Company
- Ohio Bell Telephone Company
- Cincinnati and Suburban Bell Telephone Company
- Michigan Bell Telephone Company
- Indiana Bell Telephone Company
- Wisconsin Telephone Company
- Illinois Bell Telephone Company
- Northwestern Bell Telephone Company
- Southwestern Bell Telephone Company
- Mountain States Telephone and Telegraph Company
- Pacific Telephone and Telegraph Company

It owns a little less than one-third interest in the Bell Telephone Company of Canada and a half interest in the company owning the telephone cable from Key West to Cuba. The A. T. & T. also owns 98.3 per cent of the Western Electric Company, the manufacturing end of the Bell System, and the A. T. & T. and the Western Electric jointly own the Bell Telephone Laboratories, the research end of the Bell System.

The people of the U. S. do their telephoning on 20,100,000 telephones. Of these instruments, 15,500,000 belong to the Bell System and are called Bell System telephones. There are 4,500,000 telephones belonging to *connecting* companies. A connecting company is a company which does not belong financially to the Bell System, but whose lines are connected to the Bell lines and whose subscribers depend upon Bell facilities for long-distance telephoning. The remaining 100,000 telephones belong to *competing* companies in which the Bell System has no financial interest and with which it has no physical connections. The Bell System therefore controls more than 75 per cent of U. S. telephones. Its percentage of the telephone business, however, is much higher. In the first place, it has most of the telephoning in the larger cities. In the second place, it has most of the long-distance (also of transoceanic) telephoning. The Bell System within the area it serves is essentially a monopoly and makes no bones about its position as such. On the other hand, it is not an unregulated monopoly. There are forty-five state public service commissions (all states except Texas, Delaware, and Iowa) and the Interstate Commerce Commission, all with jurisdiction over telephone rates. The rates charged by the various telephone companies are subject to the approval of these commissions except that should any commission impose a rate which the Telephone company should consider confiscatory, the Telephone company has the right to bring its case to the U. S. Supreme Court and there argue it on the confiscation basis. Because American industry is operated primarily on the theory that reasonable prices are guaranteed as the result of free competition between relative equals, an industry (such as the telephone industry) which is a natural monopoly and in which regulation must substitute for competition is inescapably regarded with a certain suspicion. The Telephone company on the whole enjoys a better popular reputation than the light and power utilities and a good deal better reputation than most of the transportation utilities. Yet the regulated position in which Mr. Gifford finds himself must always be kept in mind as one of the factors which contributes to his profit-making restraint.

Belonging 98.3 per cent to A. T. & T., but sponsoring no telephone conversations, is Western Electric, Inc., which attends to the manufacturing end of the telephone industry. It is obviously necessary that someone should make the telephones with which the nation's telephoning is done, and it is obviously advantageous for the company which uses the telephones to control the company which makes them. Because the Western Electric statements are not included in the consolidated reports of the Bell System, because Western Electric is a manufacturing company (and therefore not subject to utility commissions), and because Western Electric (through Electrical Research Products, a wholly-owned subsidiary) carries on a non-telephone business—chiefly the distribution



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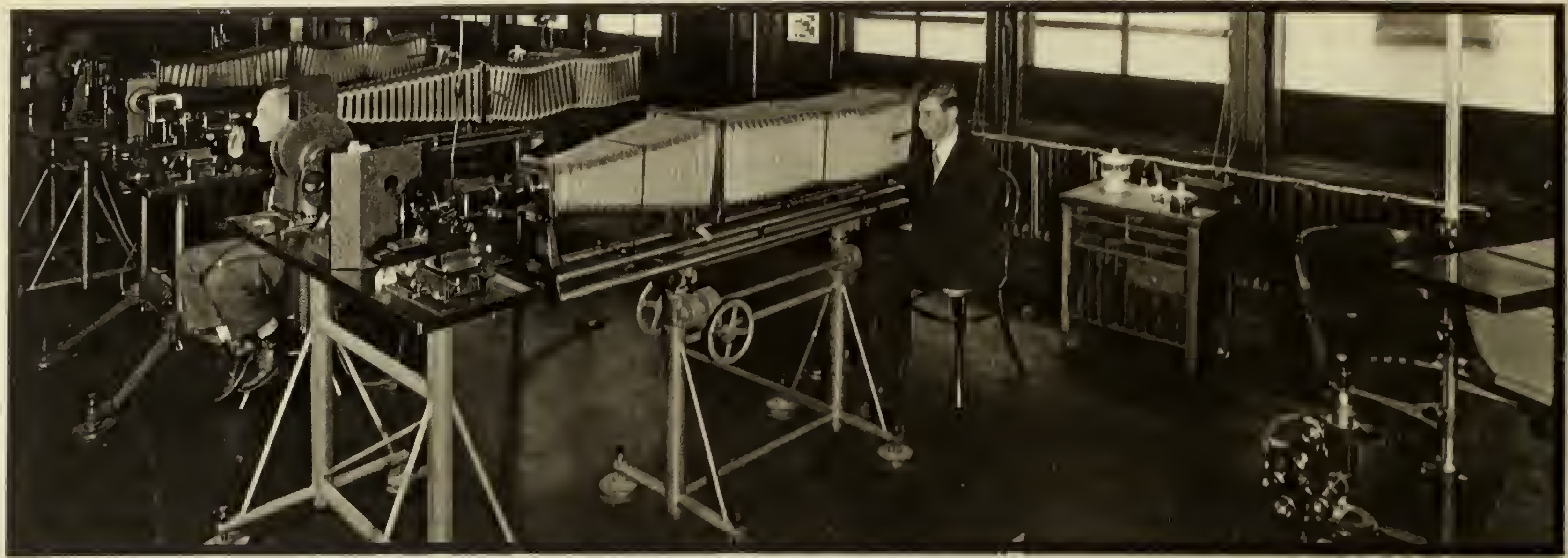
Arthur Gerlach

Detail of New York Telephone Co. equipment. These are resistance lamps and fuses which guard against damage from excess current.



of talking motion picture mechanisms—there is a strong tendency to regard Western Electric as the rabbit in the Telephone company's hat. Into this Western Electric *mystery* we shall inquire below; meanwhile it should be remembered that although Western Electric is certainly a very large company (probably few people realize that its annual sales are about the same as those of General Electric), the bulk of its business does lie in the manufacture of telephone equipment and about 90 per cent of its business is done with Bell companies. Operating telephone companies are not compelled to buy their instruments from Western Electric, but they do buy such instruments as a matter of usual practice. So do many of the connecting companies. If, therefore, Western Electric is regarded not as a side show or as a bypath, but as the vital and intimate manufacturing end of the telephone business, such an outlook cannot be accused of much astigmatism.

We have, then, the A. T. & T. as parent company, service and research organization, and financial headquarters of the telephone industry. We have the twenty-one operating companies and the A. T. & T. in its operating function (the long distance lines) as the operating division of the Bell System. And we have Western Electric as its manufacturing division. Such, in very broad outline, is the organization of what has already been noted as the world's greatest business.

. . .

Now since the purchaser of A. T. & T. stock has, for all practical purposes, purchased an interest in the Bell System as well, including Western Electric, he has unquestionably identified himself with the No. 1 corporation of the universe and is entitled to whatever sentimental overtones such an association may bring him. Remembering, however, the Telephone platform of *no extras*, let us become momentarily mathematical and see what the Telephone investor's return may be in actual dollars and cents. Suppose that the investor bought 100 shares of Telephone stock in July, 1930, and paid for it $220 a share. The regular dividend of the Telephone company is $9.00 a share. That dividend stood at $8.00 from 1906 until 1921. In the second quarter of 1921, when Telephone stock was having some difficulty in maintaining its par of $100, the dividend was raised to $9.00. Since the stock's 1930 low of 200 was 100 points above par, the par problem appears definitely to have disappeared, and with it the necessity for raising the $9.00 dividend, which therefore can be considered as the probable return for some years to come. Simple arithmetic demonstrates that $9.00 on $220 amounts to 4 per cent.

But, of course, Telephone stock is not a 4 per cent investment. Nearly all corporations from time to time offer to their stockholders opportunities to purchase new stock at a price considerably below the market. With the Telephone company such opportunities are a basic financing method and can be counted upon to recur at frequent intervals. In 1922, 1924, 1926, 1928, and 1930 holders of Telephone stock were offered additional stock at the par value of $100, which was anywhere from 25 to 100 points below market. The first two of these offerings were made on the basis that the stockholder could purchase one new share for each five shares already held, and the last three were made on the basis of one new share for each six shares already held. From an official A. T. & T. standpoint these subscription offerings were not at all in the nature of gifts, but they were

[*Continued on page 104*]

A. T. & T.'s Board of Directors

Comes regularly from Boston and elsewhere to meet the maker of the Dallas speech. Three major traditions.

THE outstanding characteristic of a director is that he does not direct. He represents. He may represent, individually, stock ownership or financial backing or management or general respectability or what not. But taking him and his fellows together as a unit—as a board—he represents the character of his corporation. He is partly a mirror in which the corporate character may be reflected to the general eye. But like the sundial that numbers only happy hours, he must also be a mirror that reflects only a true picture. He must guarantee as well as illustrate the integrity of his corporation. The standing of any business can be only as high as the calibre of its directorate. The presence of a Kuhn, Loeb partner on the board of Paramount, for instance, is as indicative as the absence of a great financial name on the board of the old Fox Films. A company is known by the directorate it keeps.

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And the directorate of the Telephone company does excellently hold up the mirror to the Telephone nature. It includes a strong representation from the New England group by whom the company was originally founded. It includes an excellent selection from our more notable financial intelligences. And—as a great utility should—it includes a very marked percentage of public service coupled with a noticeable leaning toward what might be termed an aristocratic liberalism. These qualities are, of course, not mutually exclusive, and the Telephone directors are not to be labeled in precise and water-tight compartments. As a group, however, they do suggest the mingling of three major traditions—a New England tradition of family, a Wall Street tradition of finance, and a public service tradition compounded partly of war-time service and partly of Wilsonian democracy.

Among the New Englanders, William Cameron Forbes is perhaps most typical. His father was Colonel William Hathaway Forbes, president of the National Bell Telephone Co., A. T. & T. predecessor. His mother was Edith Emerson, daughter of Ralph Waldo Emerson. Among his Harvard classmates (1892) were Thomas Lamont, Morgan partner; Arthur Woods, one-time N. Y. Police Commissioner; Jeremiah Smith Jr., fellow Telephone director and one-time financial savior of Hungary. Among his friends are Edwin Sibley Webster, of Stone & Webster; Fred Rice, of Rice & Hutchins (shoes); Harold Keith, of Walkover (shoes); H. Wendell Endicott, of Endicott-Johnson (shoes); Bradley Palmer, of United Fruit. At Naushon, off the Massachusetts coast, he has an island empire [FORTUNE, February, 1930]. He served in the Philippines under William Howard Taft, was Governor-General of the islands from 1909 to 1913, and here represents no liberal tradition. As Philippine mementos, however, he cherishes a dagger presented him by Aguinaldo and a sort of plaque (also a presentation) constituting a map of the Philippine region in which the ocean is made of silver, the islands are made of gold, and the civic improvements of his administration are picked out in glittering jewels. At sixty Mr. Forbes is active at yachting, at shooting, and at polo (he has a private field on his Westwood, Massachusetts, estate). This summer, however, he has again traveled far to the East on his country's business, for President Hoover appointed him Ambassador to Japan, and he left for Tokyo in August.

Another director partly by inheritance is Philip Stockton, whose father, Howard S. Stockton, was Bell president from 1887 to 1889. Yet Mr. Stockton's position could not be considered purely dynastic. In his own right he is one of New England's two or three most able bankers, was for many years president of the Old Colony Trust Company. When Old Colony and First National (directed by Daniel Gould Wing, New England's outstanding banker) were combined, Mr. Stockton became president (Mr. Wing remaining chairman of the board) of the

[*Continued on page 93*]

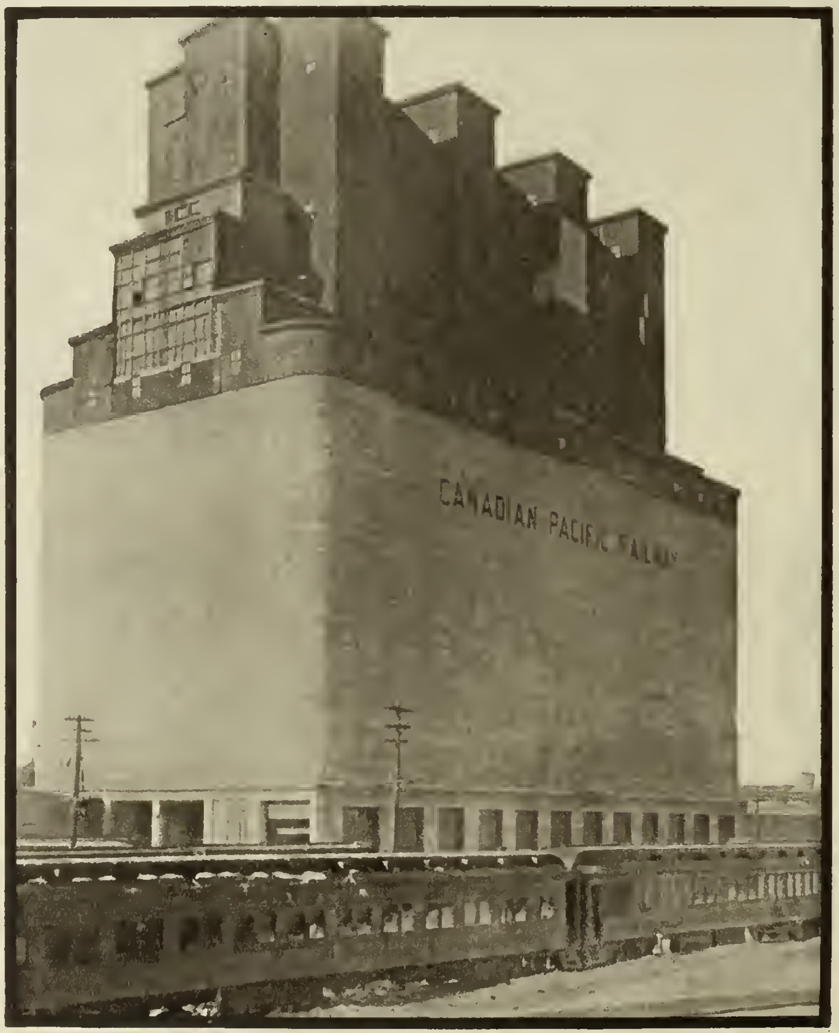
Canadian Pacific Railway

Sometimes called Sacred Cow of Canada. Premier creator of its own traffic. World's greatest grain-carrier and near-greatest shipmaster, hotel-keeper, realtor, miner, farmer, lumberman. Assets: $1,399,000,000.

WHEN in 1881—half a century ago—the contract for the construction of the Canadian Pacific Railway was signed, the Dominion of Canada was strictly a geographical expression. From the basin of the Great Lakes to the Pacific its southern boundary was formed by a straight line slightly below the forty-ninth parallel, an imaginary line laid down with that splendid disregard for the facts of economics, commerce, and military strategy which the boundary decisions of the frontier period alone could achieve. The administrators at Ottawa had to travel to Winnipeg by way of Chicago and to British Columbia by way of the new American transcontinental railways—if not by way of Cape Horn. A fairly compact population group in the lower Lakes basin looked westward down a long, unnatural corridor to see only a handful of farmers about Winnipeg and another handful of trappers and gold miners at the extreme western end and beyond the impassable barrier of the Rockies. The rest was practically uninhabited, and both handfuls would inevitably drift into the economic and ultimately the political orbit of the U. S. unless the natural channels of trade could be re-oriented across forty degrees of longitude.

The Canadian Pacific Railway was the bold and more or less conscious answer to that singular problem. The problem was at once more difficult, more artificial, than that which confronted the railway builders of the U. S.; it was also to carry with it an opportunity in many respects unique. The result is the modern Canadian Pacific Railway system—"C. P. R.," an organization so firmly embedded in the national life and built to so heroic a scale as to be known everywhere simply by its initials. Designed to cut a trade channel across forty degrees of longitude, it now reaches in a single compacted transportation system around 240 degrees, or two-thirds of the earth's circumference. It owns or operates more than 15,000 miles of track in Canada and controls 5,000 more in the U. S.—a mileage far beyond any U. S. railroad. A fleet of transoceanic steamers in the Pacific, another in the Atlantic, and other fleets on the Lakes and on coastal waterways fly its house flag—sixty-eight vessels (with two building), in all with a tonnage of 511,418. It owns 4,685,000 acres in farms, town sites, and timberlands with gas, petroleum, and mineral rights. It has built a great irrigation system; it controls the second largest mining company in Canada (Consolidated Mining & Smelting, of whose stock it owns approximately 49 per cent); it has spread a chain of its own transient and tourist hotels through the Dominion; it conducts its own express system and its own telegraph lines; it operates its own sleeping and dining cars, while its system of developing traffic—encouraging immigration, placing settlers, assisting in the establishment of industries along its lines—has been brought to an elaboration and perfection no longer possible under the different conditions in the U. S. Its entry into the field of aviation has just been announced. Finally, it pays 10 per cent on its common—its profits derived 7 per cent from its railway operations and 3 per cent from the "Special Income Account" coming from non-railroad operations and investments—and it lists its assets, with marked conservatism, for the year ending December 31, 1929, at $1,339,000,000.

C. P. R. is, to a degree peculiar for a private enterprise, a national institution. In 1880 Canada was geographically and economically invertebrate; C. P. R. supplied the Dominion with an artificial backbone, and the interrelationship between the company and the country could not be other than profound. Its pay rolls list about 90,000 names, and it spends about $508,000 daily on wages, supplies, and taxes. What that means in a nation of only some 10,000,000 souls is not difficult to imagine. The accompanying illustrations give some idea in concrete terms of this vast and picturesque apparatus of modern commerce; they imply what it must mean in the subtler values of a nation's life. Canada is a country organized upon an export basis; she is primarily an agricultural exporting country and wheat is her first agricultural export. Varied though her activities have become, in a real sense she lives upon the great river of wheat poured down every summer and fall from the prairies of her western provinces to tidewater at Montreal or Vancouver. C. P. R. had a major rôle in the creation of that stream, in channeling it, developing it, and delivering it through the fascinating intricacies of the grain trade to the markets of the world. It is the world's greatest grain carrier;



One of the two C. P. R. grain elevators at St. John, New Brunswick (total capacity: 1,700,000 bushels). Another at Port McNicholl has a capacity of 6,500,000 bushels.

Perhaps the ugliest spot in British Columbia, Trail is also one of the wealthiest, for it is the home of Consolidated Mining & Smelting, the C. P. R.'s famous investment in a great Canadian industry, of which the C. P. R.-held stock has a market value of more than $50,000,000.

in its record year of 1928 it moved the enormous total of approximately 395,000,000 bushels of grain and 13,000,000 barrels of flour—one-tenth of the total world production of wheat in that year.

The significance of such figures in normal years can better be grasped from the consequences of bad years. Last fall and winter the golden river abruptly dried up. World surpluses and marketing difficulties dislocated Canada's wheat export trade; her grain exports in 1929 were only three-fifths of those in 1928, while the grain exports from the port of Montreal were about cut in half. The return flow of manufactured goods and supplies normally carried back to the prairies over the C. P. R. rails naturally dried up likewise. The railroad's gross for the big months of October and November was cut by approximately one-third, and rigid retrenchment became necessary. The effects were naturally felt from one end of Canada to the other. Lack of work in the great Angus Shops at Montreal aggravated the unemployment problem in the eastern cities. Though no regular service on branch lines was cut down, the freight haul was greatly decreased through lack of wheat movement. All of which was reflected last month by the ousting of the Liberal Party after ten years of political power.

With such an intimate rôle in the national economy, the distribution of the road's stock ownership is worth analyzing since it reveals the enormous stake of foreign capital without influence or control. Only about 18 per cent of the C. P. R. common (approximately 13 per cent of the common and preferred combined) is held in Canada. The road was, of course, built with outside capital, since fifty years ago Canada was a nation yet awaiting development, and as late as 1921 the United Kingdom holdings still amounted to approximately 46 per cent of the common. In subsequent years American investors bought heavily from English and other foreign holders, and the distribution as of December, 1929, was as follows:

	Common	*Preference*	*Combined*
U. K.	42.90	97.84	58.63
U. S.	32.68	.64	23.50
Canada	18.07	.29	12.98
Other	6.35	1.23	4.89

Canadians are, however, manifesting a tendency to increase their C. P. R. holdings, while the management of the road is and always has been thoroughly Canadian in its interests and outlook. The long, silent corridors of the gray Windsor Street Station in Montreal hold the nerve centers of the great system; from the beginning C. P. R. was a national undertaking, untroubled by those ills of absentee control which the Dominion learned to regret from its experiences with its eastern railways. In recent years, of course, the creation of the C. N. R. system, paralleling the C. P. R. and built, so far as railroad mileage and operation goes, to a somewhat larger scale, has deprived the older institution of the unchallenged primacy which it once held in Canadian life. But it is not straining metaphor to see the red boxcars of the C. P. R., moving in their long trains back and forth across the arteries which its rails provided, as corpuscles in the blood stream of a nation. And it was as a matter of fact not only to provide life to a nation but actually to create one that C. P. R. was built. Queen Victoria, addressing Parliament in 1885, expressed the pious wish that

[*Continued on page 46*]

British Columbia

❡Off Canadian seashores last year were caught 1,024,221,000 pounds of fish valued at $26,176,350, of which many, of course, come from British Columbia.

Canadian Pacific

The coast line is an exaggeration of Norway's. There is a $500 per capita tax on immigrating male Chinese ($1,000 on female Chinese), but there is much cheap Chinese labor. There is no longer a thriving fur seal industry. There is much profitable mining of lead and copper and gold and silver. And approximately 700,000 cases of forty-eight one-pound tins of salmon are canned yearly.

Alberta

❡Here Banff, famed resort; Kipling's Medicine Hat, the "city that was born lucky." As in most of Canada, there is much excellent fishing and shooting.

Publishers Photo Service

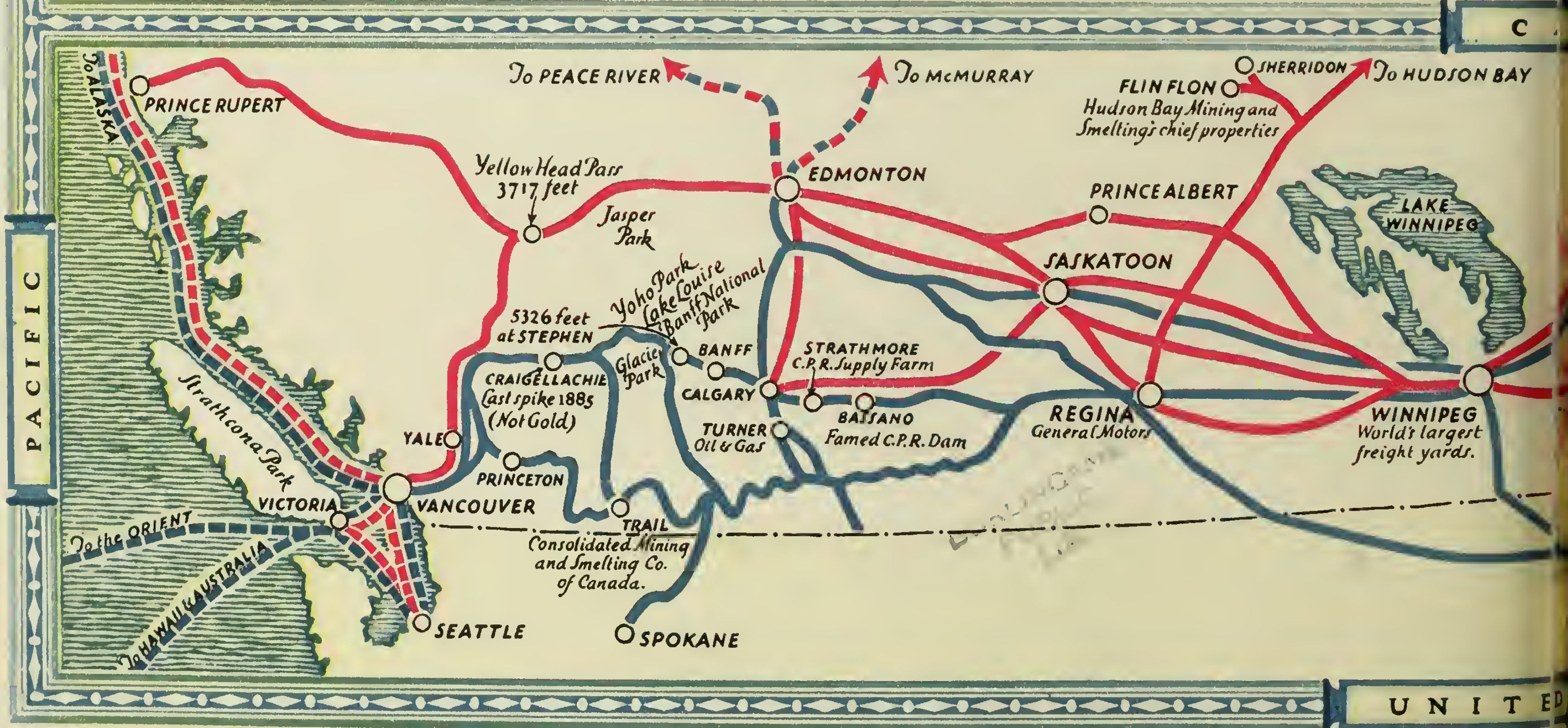
Here are many touted totem poles though most are in British Columbia. And vast coal mines and oil and natural gas. And beet sugar fields in Raymond. And an irrigated area larger than that in California or Colorado. Albertans are proud that they used 18,845,900,000 cubic feet of natural gas last year. They do not often mention the 45,000,000,000 cubic feet which were wasted.

Saskatchewan

❡Here yet lingers much old-world formality. One sees top hats and occasionally frock coats on Sundays. Also one sees Doukhoborsti (Russian Quakers).

Canadian Nat'l Rys.

Center of the three prairie provinces, Saskatchewan is most prairian and leads Canada in production of wheat. There are clay and coal, but little has been done about it. Between 1911 and 1921, the population of Saskatchewan almost doubled. But according to most recent statistics, it is now only 821,042. The Saskatchewan is the best-known river, but there is also the Qu' Appelle.



PACIFIC
C
To ALASKA
PRINCE RUPERT
To PEACE RIVER
To McMURRAY
SHERRIDON
To HUDSON BAY
FLIN FLON
Hudson Bay Mining and Smelting's chief properties
Yellow Head Pass 3717 feet
Jasper Park
EDMONTON
PRINCE ALBERT
LAKE WINNIPEG
SASKATOON
Yoho Park
Lake Louise
Banff National Park
5326 feet at STEPHEN
Glacier Park
BANFF
STRATHMORE C.P.R. Supply Farm
CRAIGELLACHIE Last spike 1885 (Not Gold)
CALGARY
BASSANO Famed C.P.R. Dam
REGINA General Motors
WINNIPEG World's largest freight yards.
TURNER Oil & Gas
Strathcona Park
YALE
PRINCETON
VICTORIA
VANCOUVER
TRAIL
Consolidated Mining and Smelting Co. of Canada.
To the ORIENT
To HAWAII & AUSTRALIA
SEATTLE
SPOKANE
UNITED

Manitoba

ℭ The name Manitoba comes from two words, *Manito*, Great Spirit, and *Waba*, narrows of a lake. But by metonymy the name now means God's Voice.

ublishers Photo Service

Manitoba also means strawberries and aspberries, cherries and plums. It means 2,000,000 pounds yearly of butter, over 14,000,000 worth yearly of dairy goods, ecord oats, prize winning steers. Winnipeg s Canada's greatest grain distributing point. The Winnipeg River, more than 200 miles ong, could, if urged, provide much excelent water power. Here settled a devout ect of Russian Mennonites.

Ontario

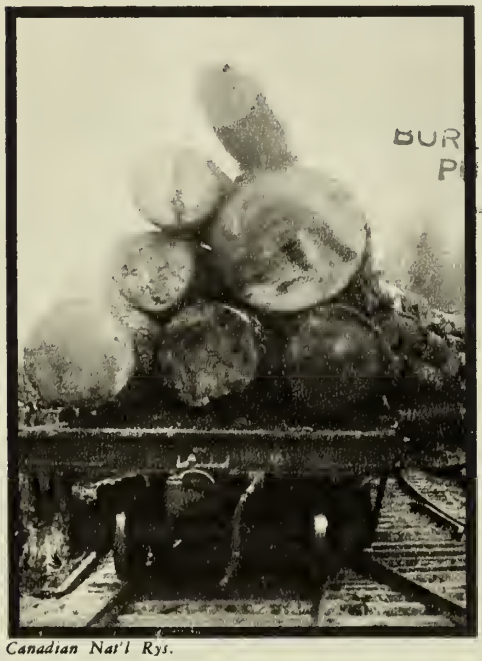
ℭ Here Niagara Falls, universities, and colleges (Toronto, Victoria, McMaster, Trinity, Queens, Western, Ottawa). Here bootleggers, honeymooners.

Ewing Galloway

Canada is not greatly industrialized, but Ontario is its most industrialized province. Nine-tenths of its people live on one-tenth of its area. One-half of Canada's orchards (apples, peaches) are here. There is little coal but much hydroelectricity. The Royal York at Toronto is the largest hotel in the British Empire. The province leads Canada in agricultural production. The province women greatly dislike the U. S.

Quebec

ℭ Here atmosphere: Notre Dame des Victoires, Ursulines, Wolfe and Montcalm, crooked streets, the monument to first farmer Louis Hébert.



Canadian Nat'l Rys.

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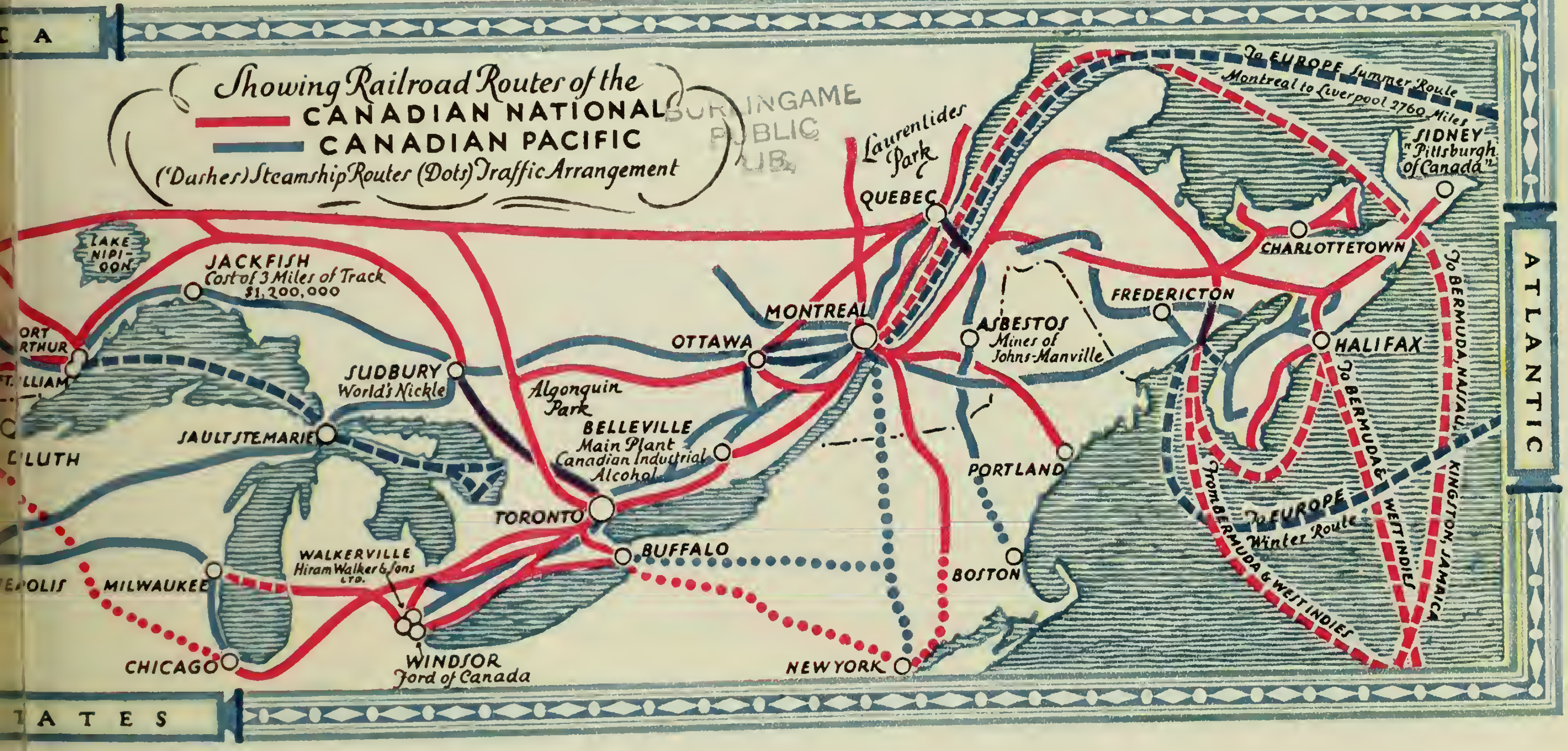
And in Quebec is a mill which the Anglo-Canadian Pulp & Paper Mills claims is the most modern in the world. There are also asbestos and mica and a Johns-Manville plant at Asbestos. Last year's $45,000,000 mining production was 22 per cent better than that of 1928. The City of Quebec is the New York of Canada as Ottawa is its Washington. But best known to U. S. citizens is Montreal.


A
Showing Railroad Router of the
CANADIAN NATIONAL
CANADIAN PACIFIC
('Dasher) Steamship Router (Dots) Traffic Arrangement
LAKE NIPIGON
JACKFISH
Cost of 3 Miles of Track $1,200,000
ORT RTHUR
T. LLIAM
LUTH
SUDBURY
World's Nickle
SAULT STE. MARIE
Algonquin Park
BELLEVILLE
Main Plant Canadian Industrial Alcohol
TORONTO
BUFFALO
OLIS
MILWAUKEE
WALKERVILLE
Hiram Walker & Sons LTD.
WINDSOR
Ford of Canada
CHICAGO
NEW YORK
OTTAWA
MONTREAL
Laurentides Park
QUEBEC
ASBESTOS
Mines of Johns-Manville
PORTLAND
BOSTON
FREDERICTON
CHARLOTTETOWN
HALIFAX
SIDNEY
"Pittsburgh of Canada"
To EUROPE Summer Route
Montreal to Liverpool 2760 Miles
To BERMUDA, NASSAU, KINGSTON, JAMAICA
To BERMUDA & WEST INDIES
From BERMUDA & WEST INDIES
To EUROPE Winter Route
ATLANTIC
TATES

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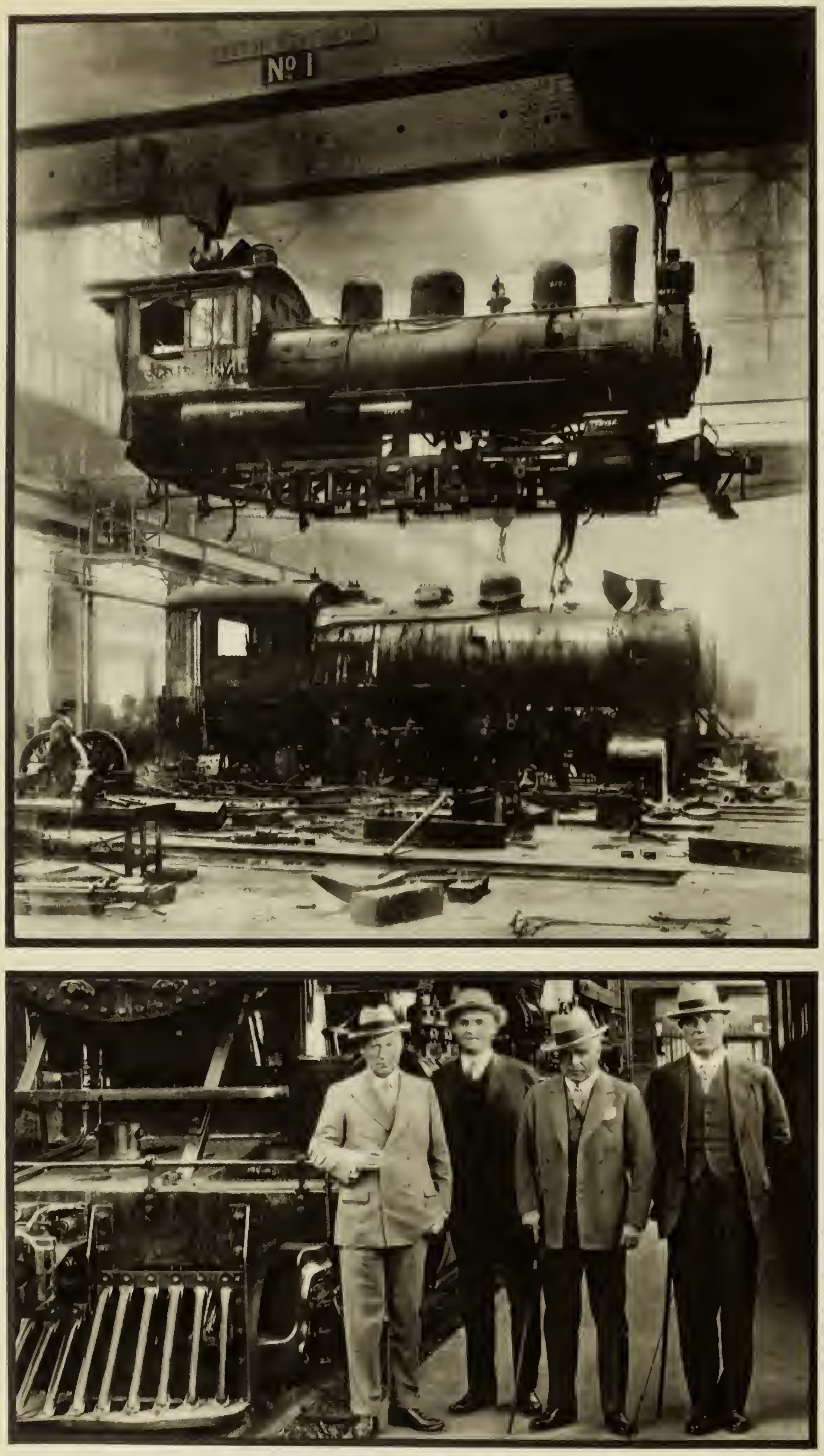

THREE LOCOMOTIVES AND THE C. P. R.'S DRIVING FORCE
In Montreal, the C. P. R.'s Angus Shops build any type of rolling stock and, as above, rebuild it later. In the lower picture, Chairman E. W. Beatty (third from left) stands by one of the newer engines which C. P. R. needs now more than ever to compete with its rival, the C. N. R.

"my Dominions in North America may be ultimately peopled in an unbroken chain from the Atlantic to the Pacific." Actually what is now British Columbia was seriously considering joining with the U. S. It was necessary to promise a transcontinental railroad before British Columbia would agree to join the Dominion of Canada. The promise was given. But the fulfillment was by no means easy. The Canadian Rockies were impassable except by the most difficult trails. East of the Rockies there was a stretch of empty but fertile prairie; between the Winnipeg area and the older provinces there lay another empty stretch—the region along the north shore of Lake Superior, not only empty but riddled with rock ranges, countless small lakes, and swamps. Not only was it physically difficult to span Canada, but also there was no economic justification for building a railroad. In the Northwest, which now was linked to the Atlantic, there were exactly 165,000 persons. For whom, since it was they who had really insisted upon the railroad, the Canadian Government gave to the C. P. R. 25,000,000 acres of land and $25,000,000 in cash. And for whom, since this, of course, proved not enough, the C. P. R. had to borrow $22,500,000 more, and when this was used up, float a stock issue of $35,000,000 with the Barings in London.

In time, the C. P. R. was built, with what political difficulties, with what financial struggles and lavish dynamiting of the seemingly hopeless passes, with what industrial heroisms, faiths, and deaths, it need not concern us here. The year 1885 saw the completed road; Lord George Mount Stephen was president; the gloomy Illinois-born William Cornelius Van Horne, who was later to become president, was the executive responsible for the actual building. And it remained for him to justify by profits the road he built. He was aware that there was little trade for his road, but he was willing to create it. He had no time for heroics (his last spike was iron, not gold. "And anyone who wants to see it driven," he remarked, "will have to pay full fare"), and he realized that the building of the C. P. R. was only the preface to the story which the C. P. R. must tell. Accordingly when on July 4, 1886, the first through train reached Port Moody and the Pacific, a cargo of tea was on its way from Yokohama to meet it. And that cargo (for which Van Horne had, of course, arranged) was duly transported back east on the first through train which made *that* trip. If Canada were not yet prepared to supply trade sufficient unto the C. P. R., Japan and China would. By 1887 the C. P. R. had three chartered steamers doing a regular trans-Pacific run from Vancouver, and C. P. R. agents in the Orient and Australia were drumming the trade which was to pay for those costly miles over the Rockies. The great white fleet of C. P. R. ships hereinbefore mentioned thus was launched.

But there remained the trade of Canada itself. Van Horne busied himself with that too. He faced a period of depression and low prices that had set in after the crop failure of

1882. He faced three prairie provinces scantily populated. One of his first resources was to bring American cattlemen across the border to graze their stock on his prairies; he also launched an advertising campaign in eastern Canada—at the time striking in the originality of its copy—to produce immigration. A feeling that his wheat farmers were being victimized by thirty-five cent wheat led him to go into the market and buy wheat for fifty cents. It flooded his platforms and left him struggling with a car shortage, but when hostile interests circulated photographs of his congested terminals to prove C. P. R. inefficiency Van Horne bought up the pictures and spread them broadcast to demonstrate the amazing productivity of the Canadian Northwest. Thus did Van Horne justify his railroad by building the country through which geographically but with no economic reason it ran. When he retired into a knighthood in 1899, C. P. R. stock was almost at par, the company's sales from its 25,000,000 acres of land were proving a source of revenue. It was somewhat putting the cart before the horse, a little like hitting a man and finding the reason afterwards. In pure logic there should first have been a nation, then a railroad. The C. P. R. reversed the process. And to this day the C. P. R. continues its policy of selling land, of encouraging immigration, facilitating tourism by building its own hotels. When Van Horne's successor, Lord Shaughnessy, lay dying he was said to have remarked to *his* successor, the Canada-born Edward Wentworth Beatty, "Take good care of the Canadian Pacific Railway. It is a great Canadian property and a great Canadian enterprise." He might have said, "Take good care of Canada. It is a great country." Mr. Beatty, the erstwhile lawyer, always well dressed, always the athlete (he avoids golf, however, as involving repression), obeyed the command.

It is manifestly impossible for C. P. R. books, no matter how kept, to give at any one time an accurate mirror of the worth of the company. Agricultural land values rise and fall, mortgages are paid off or have to be foreclosed, coal lands and natural gas fields have a present or potential value based on trends of industry and population, fluctuating from year to year. Real estate values in a hundred communities and town sites rise and fall. Mining activity, the price of metals, the value of stumpage, the price per

[*Continued on page 144*]

Cathedral Mountain shines in a dark frame as a westbound train enters the first spiral tunnel about five miles northeast of Field, B. C.

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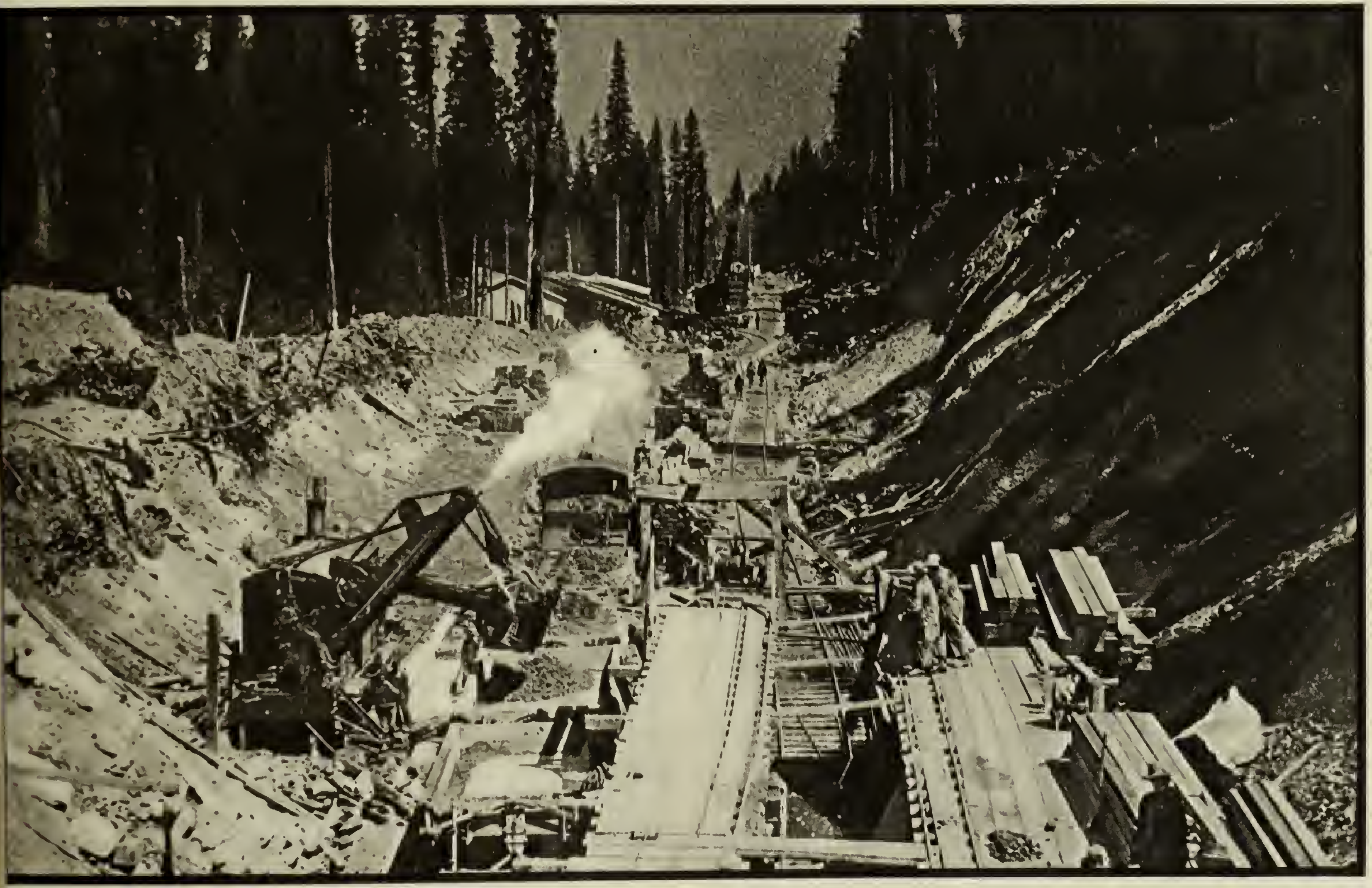

The Connaught Tunnel under Mount Macdonald, B. C., cost the C. P. R. lmost $10,000,000, but it lowered the road's summit some 552 feet and reduced track curvature by an amount corresponding to seven complete circles. It is double-tracked for the entire five miles.

In 1928, Pat, the gray and black cat, walked onto the *Empress of Australia* and has stayed there ever since (except for one brief excursion on the wharves of New York). The *Empress of Australia* was most heard of in 1923 when she did relief work for the Japanese earthquake.

The *Empress of Britain* will be, when in service (1931), the largest ship plying between Canada and the Continent. Her decorations were done by such men as Sir John Lavery and Edmond Dulac. The Prince of Wales launched her, and Princess Mary was the first woman to step on board.

Fastest ship on the Pacific is the *Empress of Canada.* She once went from Yokohama to Victoria in eight days, ten hours, and fifty-three minutes—a record that still stands. First ship to enter Yokohama after the earthquake, she took many refugees back to Kobe and Shanghai.

The *Empress of Russia,* outward bound from Vancouver, held Pacific speed records until the *Empress of Canada* arrived. She bears noble scars where guns were mounted during her War-time service in the Far East and India. She has never been to Russia.

Sunset on the Clyde, mother of many ships, shows the *Duchess of Richmond* tugging at her anchor. Average tonnage of the Canadian Pacific fleet is 20,000 tons per ship. (The *Majestic*, by way of comparison, weighs 56,620 tons, the *Bremen* 51,655.)

The *Duchess of Athol* has had only one fling. Once she took a trip to South America and Africa. But for that she has remained faithful to her Montreal course. She carries 1,400 passengers, which is little more than half of what the *Majestic* can carry.

BURLINGAME
PUBLIC
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The *Empress of France*, once the *Alsatian* of the Allan Line, holds the speed record (five days, fourteen hours, fifteen minutes) between Cherbourg and Quebec. She is also the one-time flagship of the Tenth British Auxiliary Cruiser Squadron, and did service off South China.

Added to the C. P. R. peerage are the *Princesses*. Above is shown the compact, speedy *Princess Joan*. Her sister ship, *Princess Norah*, is the newest of the C. P. R. line. Soon, however, there will be in service the C. P. R.'s newest and greatest—the *Empress of Britain*.

The *Empress of Asia* (shown above) like her sister ship, the *Empress of Russia*, did War-time service. Alike in exteriors, the peace-time appointments of their various salons and lounges are nevertheless different. But their ballrooms are identical.

At Kowloon, China, the *Empress of Canada* and the *Empress of Australia*. There are fifty-four C. P. R. ships on the Atlantic and Pacific and fourteen on the rivers and Great Lakes. The C. N. R. has ten ships and two which are now a-building.

In the above government-owned grain elevator at Saskatchewan may be stored 3,500,000 bushels of wheat.

Police guard the advance of new C. P. R. lines into a grain district.

Ewing Galloway

Founded by the C. P. R., the Port of Vancouver is Canada's largest outlet to the Pacific.

Sir Henry Thornton

BURLINGAME
PUBLIC
LIB.

Of the Canadian National Railways Co.

IN OTTAWA, carefully locked away, there reposes a single certificate of stock. It represents the entire common issue of the Canadian National Railways Co.: ownership of 23,000 miles of railroad, a hotel chain, a steamship fleet, an express company, a telegraph company. Theoretically, King George owns the certificate. Less theoretically, it has 10,000,000 owners, the citizens of Canada.

If the ownership of C. N. R. seems vague, so does its value. For should the King or his Canadians attempt to market their share, it would be difficult if not impossible to find a buyer. The C. N. R. has just started the long journey which does not always lead to prosperity and stability. The C. N. R. is not, like the Canadian Pacific, a giant corporation which has become an institution, even a religion, to some men. The history of C. N. R. is in the future. The company compels attention simply because it is a new dynamic force in Canada and is a process at work.

Before the War, Canadian railroads jubilantly expanded. The immensity of the subsequent deflation is attested to by the fact that 1922 found the government in control of every important line but the ever-prosperous Canadian Pacific. Any government, with 23,000 miles of railroad thus suddenly thrust upon it, would be discouraged, especially when the history of the system had been one of continuous mismanagement, inefficiency, debts. The Canadian Government *was* discouraged. It is at this moment that Sir Henry Worth Thornton enters the scene.

He had been knighted by the King, decorated by three governments; he was a genius in railroad transportation and already a legend in railroad circles. American-born, his training had been on the Pennsylvania. His best known work there was with the Long Island Railroad, but he is probably more grateful for an event that transpired earlier in his career. Leonor Fresnel Loree, at that time general manager, wanted a school for his railroad's aspiring employees. He chose Mr. Thornton to teach it, railroaded him through every department, and thereby gave him experience and background few men his age had heretofore acquired. This alone might have qualified him. But In 1914 he added to his prestige by his management of the Great Eastern Railway of England which, since it was War-time, might otherwise not have run so well. When In 1922 the C. N. R. asked him to become president of its lines, Henry Thornton was the only logical choice. Perhaps that is why he accepted.

About railroad men, anecdotes abound. Of the many in which Sir Henry figures, the most typical is the first. At Belleville, Ontario (while he was inspecting the system for the first time in his life), somebody pointed to an inspector and explained that he was the oldest employee of the line. Sir Henry approached him and took his hand. "Isn't it odd," he asked, "that by chance the oldest employee and the newest should meet here on the level?" It was probably not calculated. But had it been, it could not have served better to incorporate into his force a new sense of unity and enthusiasm. Sir Henry continued to do that—and then he was able to turn to the more serious task of competing with the venerable C. P. R.

"You own it—use it." On some such patriotic appeal the C. N. R. might (and has) bid for business. Yet perhaps one of the greatest indications of Sir Henry's character is that as soon as his system got under way, this type of appeal was no longer advertised. But not advertising it does not abolish it. The appeal exists. But Sir Henry seems to know that man travels not by patriotism alone. He strove to give better service.

Time was, for example, when C. P. R. was a rich man's stock. Even the break didn't carry it far below the $200 club. Now, however, the stock is being split four-for-one, and it is expected that the roll of stockholders will lengthen. In this way C. P. R. is spreading goodwill. And there is no denying that the C. P. R.'s attitude toward the public has improved since the C. N. R. was born.

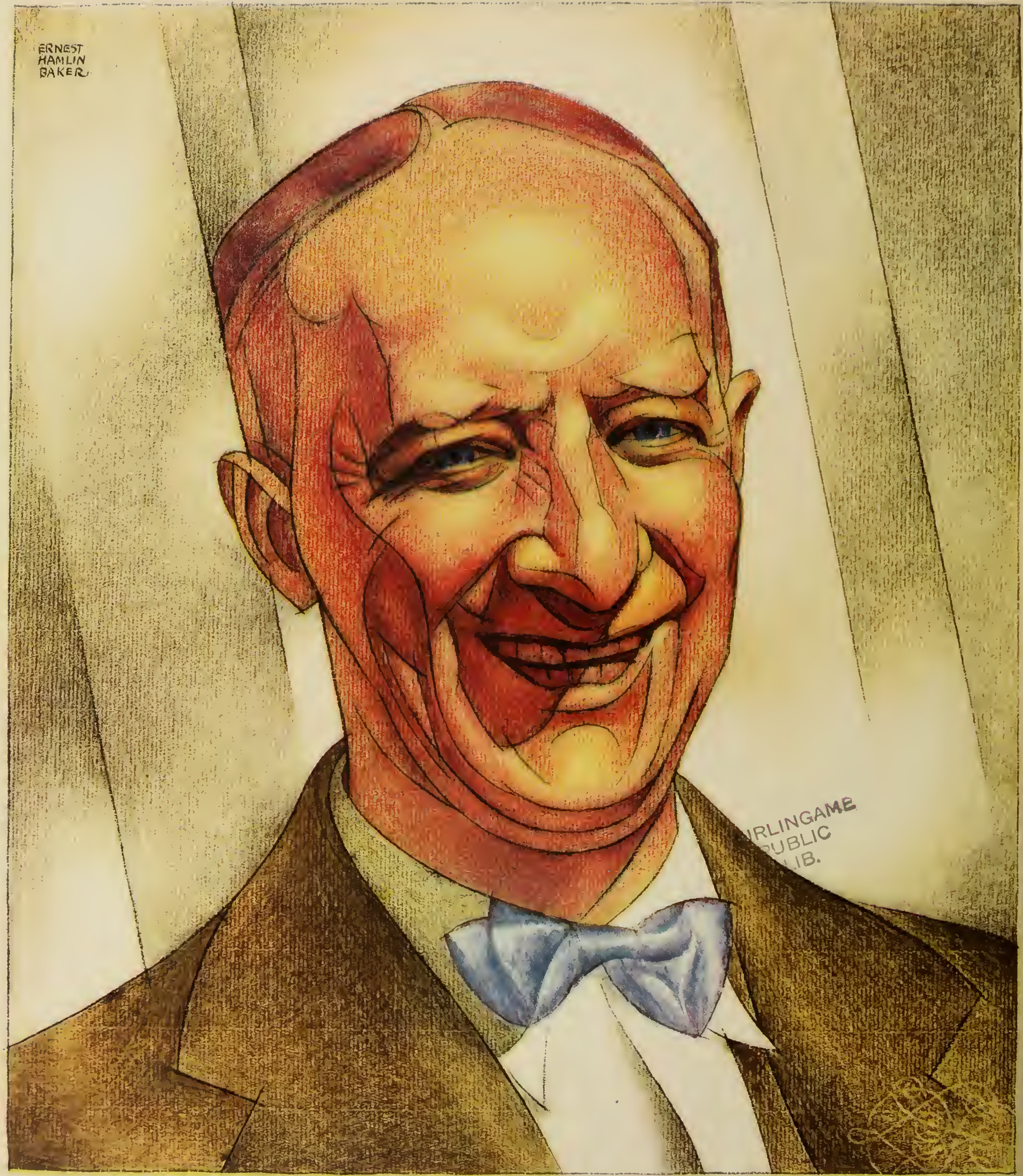
The points at which C. P. R. and C. N. R. competition flare up are many. There are two express companies, two telegraph companies. There are cities where each company has a hotel. Certain waters are served by each. It will be a long time before this tide of the battle swings either way—if ever. But there is one pitched battle that the whole world can notice. And that is the battle for passenger traffic. Which also is goodwill. And which, according to certain schools of economists, is all-important.

Sir Henry, of course, is he who is behind every move the C. N. R. makes. So well is this understood that C. P. R. men unofficially refer to "competition from Sir Henry" instead of "competition from the Canadian National." Herein lies the difference between himself and that other great executive, Mr. Beatty of the C. P. R. For Mr. Beatty is one of the brilliant manifestations of his railroad. It is otherwise with Sir Henry. His railroad is manifestation of himself.

Underwood & Underwood
SIR HENRY THORNTON

Sir Henry thus far seems to lead in the goodwill and passenger battle. He installed radios in C. N. R. observation cars and tactfully provided earphones so that the peace of non-listeners might not be disturbed (most of the programs, incidentally, are picked up from C. N. R. stations). He believed (or realized) that speed counted. C. N. R. trains almost weekly become faster, more efficient. And C. N. R. shops are working on a new Diesel electric engine that may revolutionize transportation (already one of Sir Henry's expresses goes from Montreal to Toronto [334 miles] in the magnificent time of 360 minutes). And on this express one may telephone, during the trip, from a sound-proof booth.

On the surface these seem slight changes that any day the C. P. R. may equal or surpass. But they are significant of a new pace in Canadian railroads set by the C. N. R. The C. P. R. may not decline because of the C. N. R. but there is no indication that the C. N. R. will not continue its truly phenomenal advance. "A railroad," says Sir Henry again and again, "is never finished."


ERNEST
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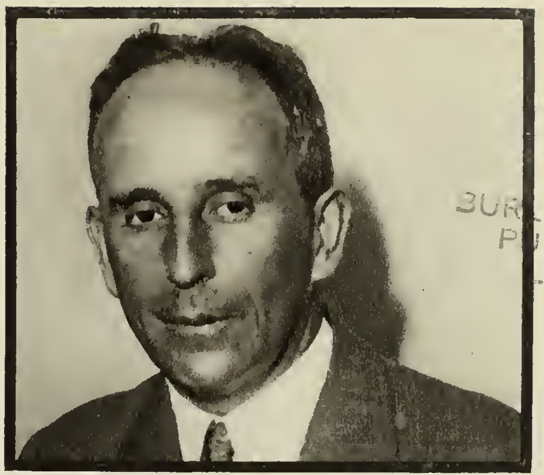
PORTRAIT OF ALFRED EMANUEL SMITH—*BY ERNEST HAMLIN BAKER*

Governor Smith of the *Empire State*

The eighty-five-story height of a political career.



Underwood & Underwood

JOHN JACOB RASKOB

The guardian angel of Mr. Smith's political career accompanies him into business to become the *primum mobile* of the Empire State Building.

BURLINGAME PUBLIC LIB.

THE truth is that it was Mr. Alfred Emanuel Smith who tore the first sliver from the old Waldorf-Astoria. Prior to that act (which occurred in the fall of 1929), Mr. Smith's association with the hotel had been casual. Oscar did not remember it at all. And Oscar remembered almost everything. (Oscar was the part of the Waldorf that was not torn down and the rest of his name, for those who need to ask, is Tschirky.) Oscar remembered the Duke and Duchess of Veragua in 1893; and Li Hung Chang, the wisest of Chinese statesmen, who brought his own cooks with him in 1896 and ate God knows what in his own apartment; and Prince Henry of Prussia, who complained about the hot water in 1902; and John W. Gates, who lived in the best rooms in the hotel at $20,000 a year and used to bet on the course of rain drops down the window glass; and Mr. Gates' friends from Chicago who thought up the U. S. Steel Corporation one evening in the Gentlemen's Café; and Mrs. Bradley-Martin on the arm of John Jacob Astor; and Rudolph Guggenheim's dinner for forty with nightingales in the rose bushes and grape arbors on the chairs and a lake of real water in the center of the table. But he did not remember Mr. Smith. He believed that Mr. Smith had on certain occasions paraded past the Fifth Avenue frontage. But he could not be sure.

As a matter of fact, there was no reason why Oscar, his mind occupied with Edward Albert, Prince of Wales, and Diamond Jim Brady, should have remembered Mr. Smith. Mr. Smith was the young man who served the first jury notices in the "new part" and who was the guest of honor at the Second Panel Sheriff's Jury Dinner. Oscar never bothered about such things. Also Mr. Smith was a New Yorker, a familiar of Pike Slip and Coenties Slip, a member of the James Slip Rangers and a Fire Buff. And Oscar knew very little about native New Yorkers. The Waldorf was like a British consulate in a Chinese port. It enjoyed a kind of extraterritoriality on Fifth Avenue. It was a bit of old Indiana or a bit of old Germany or a bit of Mrs. Ogden Mills. And New York was another thing altogether. New York was below Fourteenth Street and under Brooklyn Bridge. And its citizens felt out of place in the Thirties. Mr. Smith had once gone as far north as Central Park West with an armful of jury notices "and there was nothing there but rocks, with squatters living in little shanties on top of them, surrounded with goats and dogs." Also he had seen a cow at Fifth Avenue and Nineteenth Street grazing on $2,500,000 worth of land. It was very interesting, but it was not New York.

The fact that this same Mr. Smith was the instrument selected by whatever department of providence it is that selects instruments to destroy the Waldorf and build eighty-five stories and 200 feet of mooring mast over its well-scattered ruins has a specious air of meaning something. The truck-driver's son tears down the ballroom where Mrs. Bradley-Martin danced. The jury clerk's revenge. Something of that kind. Actually it means no more than any other coincidence of a man and a building. Mr. Smith did no more to the Waldorf than any other man in his place would have done. And there might have been a thousand in his place.

The interesting question is what the Waldorf has done to Mr. Smith. It claims to have made a man of business of him. We have had business men in politics, and we have had occasional political nominees back in business, but the true politician truly in business is enough of a novelty to catch the general attention. It is a novelty to Mr. Smith. It never would have crossed his mind back in the nineties that one day he would be governor of the state and that when he got through being governor of the state he would run for the presidency and when he got through running for the presidency he would head a corporation to build a building on the Waldorf lot. In 1890 dreams of a political future did not end in that way. You ran until you dropped, and you certainly did not retire from a public career to build a building.

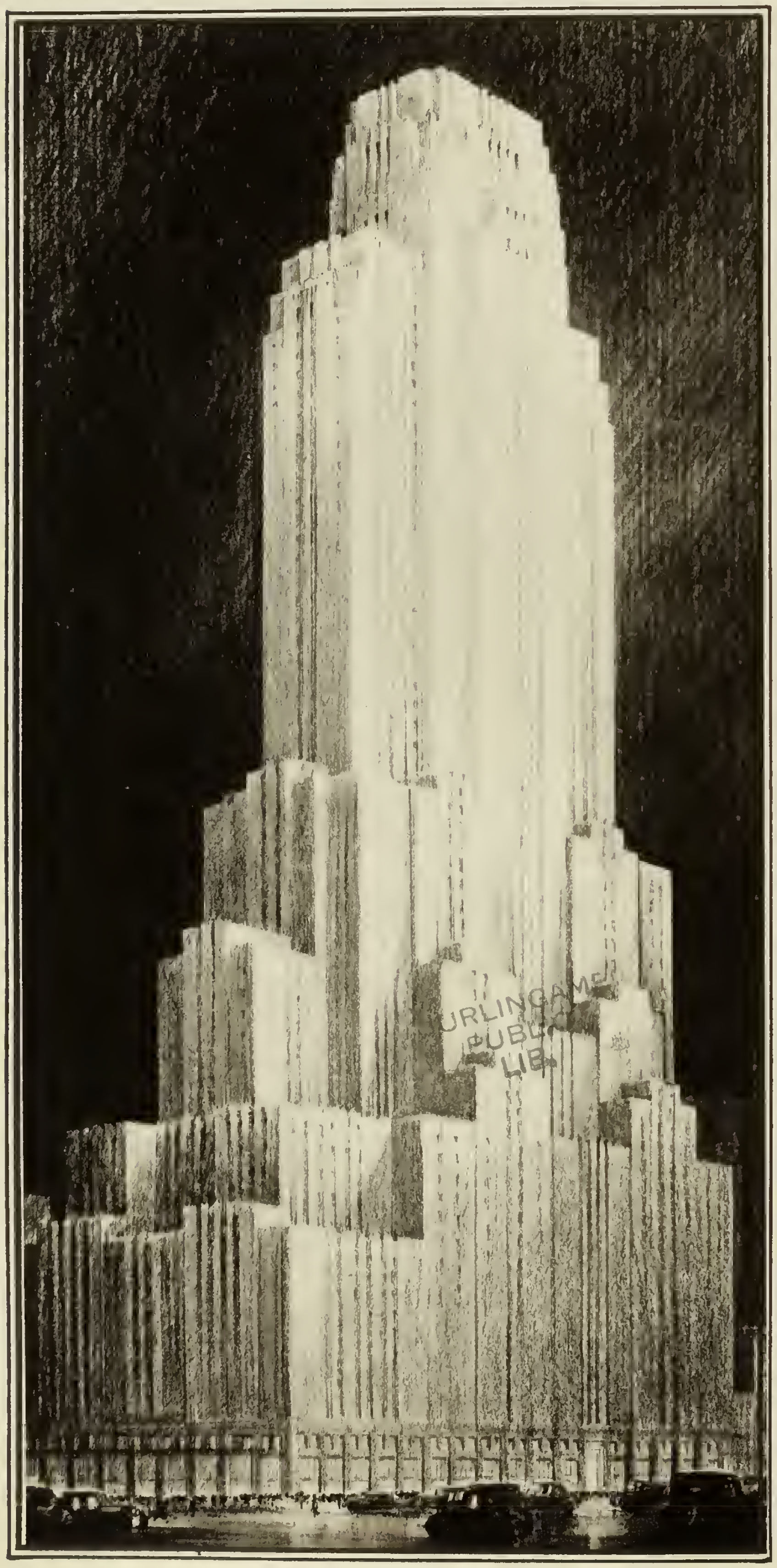
Of course, things have changed since the nineties. Al Smith has changed. Slightly. Dreams of political futures have changed (where they haven't vanished altogether, leaving the young men of our time to contemplate a maturity of unalleviated wealth). And building has changed. You no longer build a building. You build an entire city under one roof and manage it thereafter. You don't invest funds. You sink a fortune. And you don't have to retire from public life to do it. On the contrary you retire *into* public life. Your memory will be as green (provided your building is tall enough) as it would have been had you kept a nation from war and died, covered with degrees and editorial comment, in your native township.

But in spite of the changes it is hard to believe that Mr. Smith has actually ceased to be a politician and has actually become a man of business. He sits in an office carpeted in Kelly green with a gigantic plaster model of the Empire State Building on a table against the wall. He is still guarded from the press by his personal Colonel House, the omniscient Mrs. Moskowitz. He is still, if for other reasons, in touch with the trucking companies and the builders and the City Hall inspectors and the labor people. And at his door stands Sergeant Roy, a great Irish-looking lad with a blooming face and the side hair sleeked across the skin of his cranium. Sergeant Roy has been on loan from the department as bodyguard and bouncer for seven years, and now that his master has mysteriously taken to conferences with architects and engineers instead of up-state committeemen he still keeps the door with an eye out for the mental cases that public greatness always attracts. The whole office and all its employees have an air of their own. There is none of the dry alacrity of a business executive's suite. For one thing, the nature of Mr. Smith's duties does not require it. He is a member of the Board which administers the construction of the Empire State Building. (Nowadays, as will appear in the following pages, the construction of a great building is in the hands of a committee rather than in the hands of a single man.) But he is chiefly valuable to his associates for the weight which his name carries with the general public and with individuals in business and in public life. If he is sometimes pressed he is pressed in his own way and in his own time—not as the balance wheel of an intricate organization is pressed by the wheels under it. And the occasional sullenness he puts on in the face of his new duties is as obviously a reaction to an unfamiliar and unnatural world as a schoolboy's homesickness. It isn't his affair.

One gets the impression, that is to say, that the Waldorf has done plenty to Mr. Smith. And that Mr. Smith has a certain animosity in consequence. He tells you that they couldn't sell much of the old building. Two thousand doors to Mr. John Ringling of Sarasota—for what use nobody knows though anyone can speculate. Three thousand dollars worth of glass and mirrors to the hinterland hotels where the ghosts of the reflections of Mrs. Oelrichs and Lily Langtry will meet strange faces. And of the marble pillars, none. No one would buy those pillars. They were loaded on a barge and dumped at sea...

Skyscrapers: The Paper Spires

How the world's tallest building was raised without steel or rivet: the blueprint towers: the walls of ink. FORTUNE'S exploration of the skyscraper enters the world of plans and architects and engineers with the Empire State Building in the foreground.



IN February, 1930, the block on Fifth Avenue between Thirty-third and Thirty-fourth streets in New York looked like a corner in Ypres. There were a few chunks of mortar and a few fragments of the walls of the old Waldorf-Astoria Hotel along the north side of the block. There were a few newly excavated holes in the center. There was a long curving wooden ramp for the trucks. And that was all.

In February, 1930, the steel for the new Empire State Building to rise on the Waldorf site was pig iron and ore in Pennsylvania yards or metal under process in the mills of the U. S. Steel Corporation. The limestone was uncut blocks in the quarries of Indiana or a part, still, of the underpinning of that resounding state. The bricks were clay in the clay banks of New York.

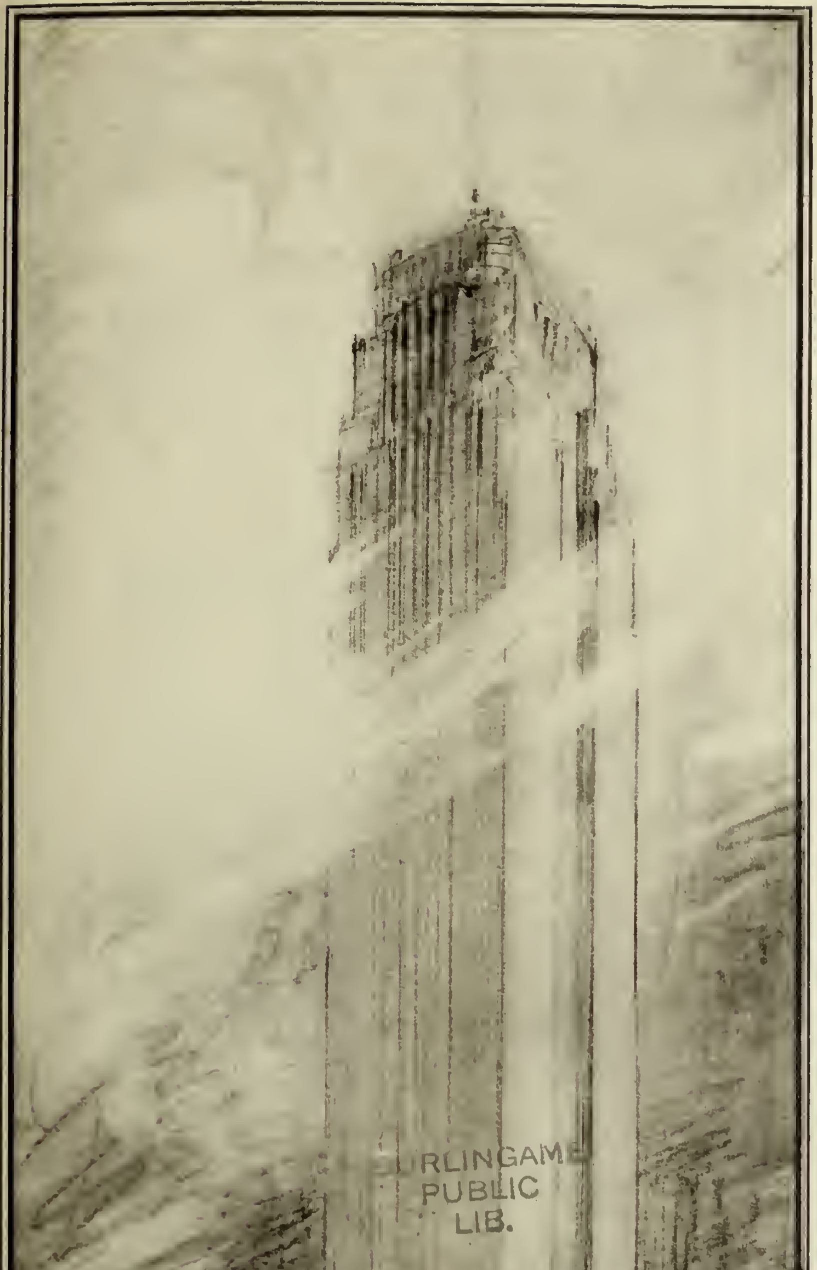
And already in February, 1930, the Empire State Building existed. It existed not only on paper but in time. It leaned forward in a definite and certain sequence from that February day to a day fifteen months in the future when the calendrical earth should have swung its foundations into their final place beneath the last flag rope on the roof. Everything—every conjunction of stone and steel, every crossing of water pipes and conduits in the floors, every precise location of a metal joint, every workman's labor, all deliveries, all inspections, all payments and advances, all delays, even the snow storms and the days of rain—the whole history of the building was foreseen. So far as anything can exist before the hands touch it, the Empire State existed. It was as real to the draftsmen at the architect's table talking about the windows of the sixty-second floor as though they were looking out of them and feeling their way as though on foot around the angles of the tenth floor stairs. It was real to the builder's office where a year from next May was as present as though it had already come. It was even real to the ordinary citizens of the town who had grown accustomed over a long period of time to see such things happen—sometimes, and who were predisposed to believe they would occur again. No one had ever seen a building 1,050 feet and eighty-five stories in the air with an observatory floor at over 1,200 feet. But the observatory of the Eiffel Tower was 905 feet, the observatory of The Manhattan Company Tower 836 feet, the observatory of the Chrysler Building 783 feet, and the needles of both the Chrysler Building and the Eiffel Tower cleared 1,000. A few hundred feet more were certainly not beyond the limits of the possible. In New York.

As for John Jacob Raskob, chairman of the Democratic National Committee, and Pierre Samuel du Pont and the Chatham Phenix Committee, and

[*Continued on page 58*]

THE GENESIS OF THE EMPIRE STATE BUILDING

The elevation on the left is the original fifty-five-story loft building planned for the Bethlehem Engineering Corporation, first purchasers of the Waldorf site at Fifth Avenue and Thirty-fourth Street in New York. The first elevation opposite is the architect's sketch of an intermediate stage of the building. Empire State, Inc. has bought the lot and has decided to erect an office building instead of a loft building. To secure the necessary light and eliminate the dark core of the loft building, the cube has been indented with light courts and the tower raised. The second elevation opposite, Scheme K, represents the Empire State Building as it will look on May 1, 1931. The cube of the original loft building has been sheared away to leave the tower free. The loss in floor space is canceled by the gain in light and hence by the gain in rentals. This building will be much the tallest structure in the world.



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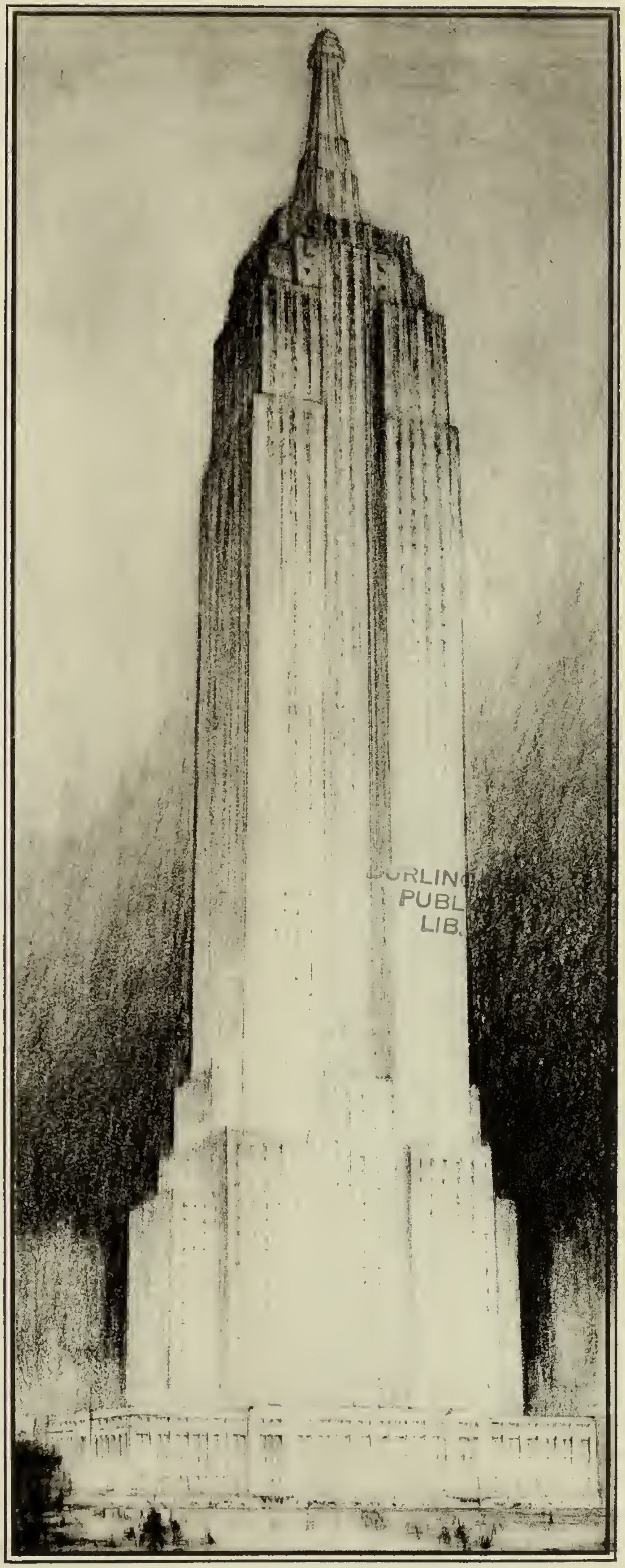

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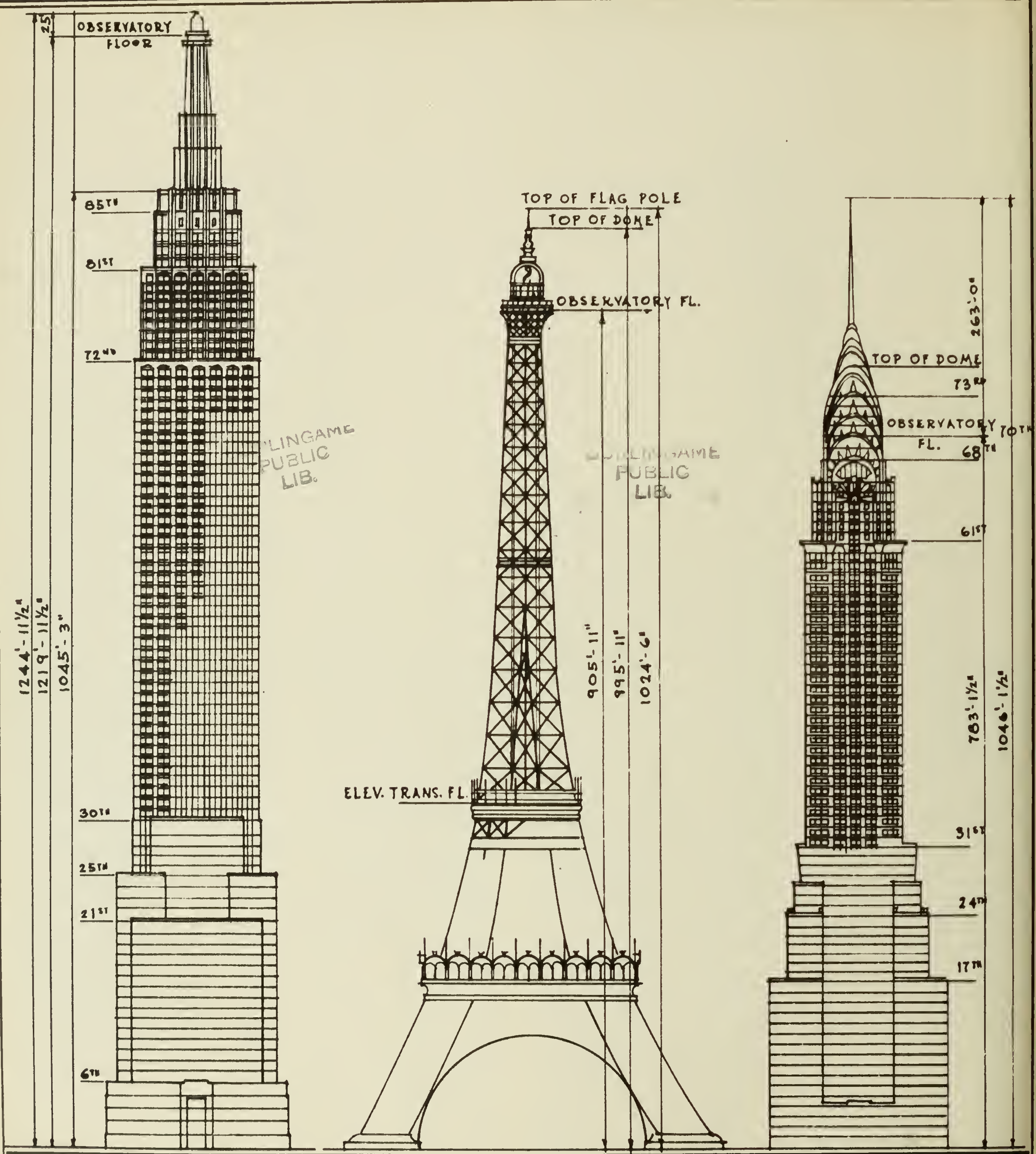

OBSERVATORY FLOOR
25'
85TH
81ST
72ND
30TH
25TH
21ST
6TH
1244'-11½"
1219'-11½"
1045'-3"
TOP OF FLAG POLE
TOP OF DOME
OBSERVATORY FL.
ELEV. TRANS. FL.
905'-11"
995'-11"
1024'-6"
263'-0"
TOP OF DOME
73RD
OBSERVATORY FL.
70TH
68TH
61ST
31ST
24TH
17TH
783'-1½"
1046'-1½"

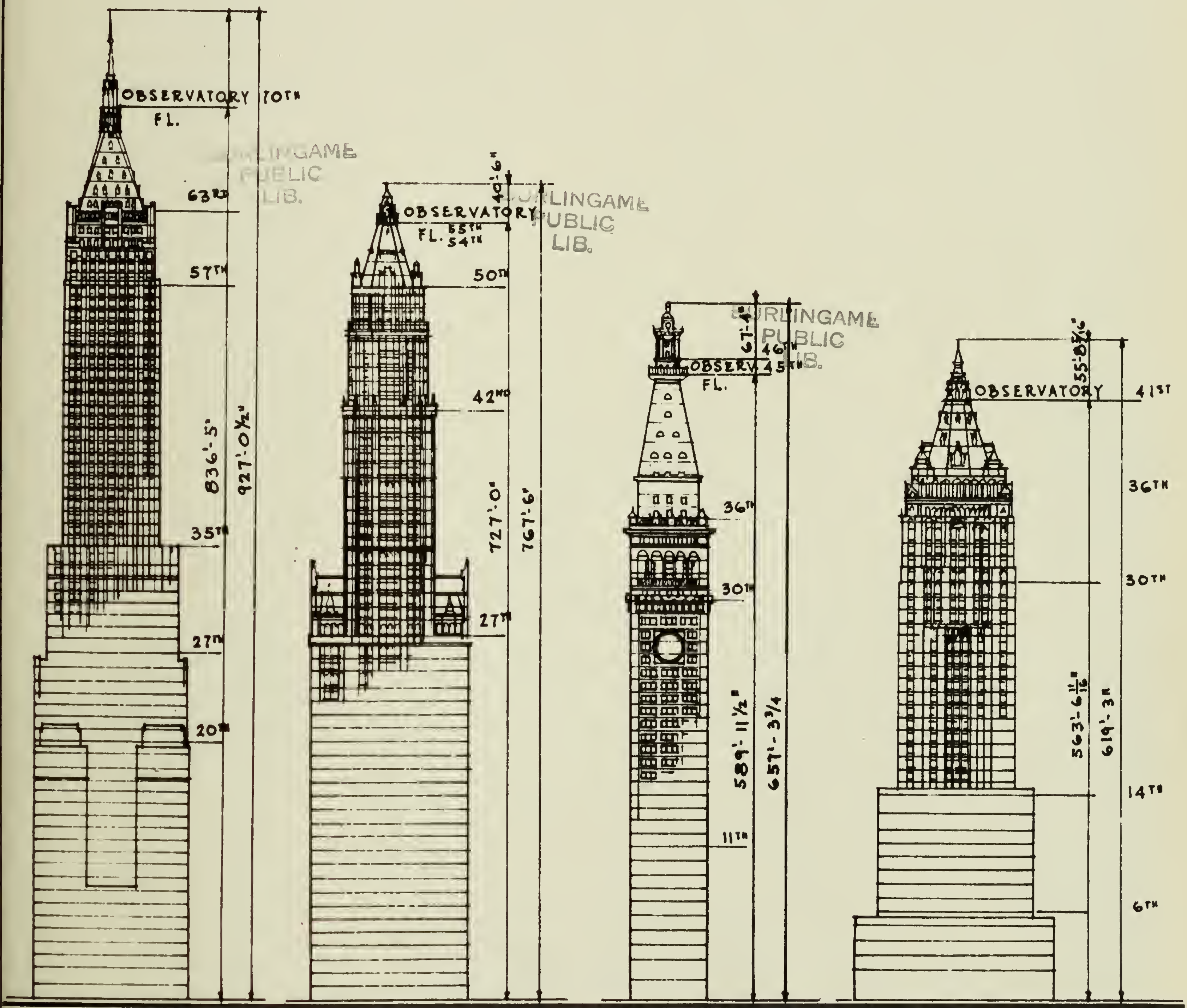
LINGAME PUBLIC LIB.

BURLINGAME PUBLIC LIB.

1930
Empire State Building
Shreve, Lamb & Harmon
Architects

1888
Eiffel Tower
Gustave Eiffel
Architect

1930
Chrysler Tower
William Van Alen
Architect


OBSERVATORY 70TH FL.
63RD
57TH
35TH
27TH
20TH
836'-5"
927'-0½"
40'-6"
OBSERVATORY FL. 55TH 54TH
50TH
42ND
27TH
727'-0"
767'-6"
67'-4"
46TH
OBSERV 45TH FL.
36TH
30TH
11TH
589'-11½"
657'-3¾
55'-8 7/16"
OBSERVATORY
41ST
36TH
30TH
14TH
6TH
563'-6 11/16"
619'-3"

BURLINGAME PUBLIC LIB.
BURLINGAME PUBLIC LIB.
BURLINGAME PUBLIC LIB.

1930
The Manhattan Co. Tower
H. Craig Severance, Architect
Yasuo Matsui, Associate Architect

1912
Woolworth Tower
Cass Gilbert
Architect

1908
Metropolitan Tower
N. Le Brun & Sons
Architects

1929
New York Life Insurance Co. Tower
Cass Gilbert
Architect

Corporation and the Metropolitan Life Insurance Company—if the Empire State Building was not real to them they were incurable romanticists and daydreamers. They were paying for the job. They had chosen a lot in a section of mid-town New York where no large office building had ever grown before, a section which the Forty-second Street development and the general northward march of civilization had overlooked. And they were, in effect (and not in effect only), betting $50,000,000 that that lot, in that section of the city, would support the biggest building in the world. It was a very spectacular gesture. If they were right they might succeed in domesticating the migratory real estate operators of Manhattan within the present uptown frontiers. They might fix the center of the metropolis. If they were wrong they would have the hooting of the experts in their ears for the rest of their lives.

The experts had been doubtful about the whole project from the start. First there was the old Waldorf-Astoria Hotel coming down after thirty-five years of glory and Hook & Eye Association Banquets and visiting delegations and Peacock Alley because the land was worth too much. The land had increased five or six times since William Waldorf Astor wiped the ink of the New York press from his fingers and moved to England. The Waldorf had been too sumptuous. It had too much space in it. No hotel standing on $200-a-foot land had a right to that much idle space. Secondly, there was the Bethlehem Engineering Corporation selling out. The Bethlehem Engineering Corporation had bought the Waldorf to replace it with a fifty-five-story loft and office building. And the erection of a loft building in place of a hotel is as naturally associated in the real estate mind with an anticipated decline in land values as a crow with a dead cat. And finally here was Empire State, Inc. taking over the Bethlehem project and planning to replace the still-existent Waldorf Hotel and the non-existent loft building with the biggest office building in the world. There was nothing inherently improbable about a great office building on Fifth Avenue and Thirty-fourth Street. The northward wash of building development, having struck Central Park and the limit of profitable commercial construction, was bound to wash back again. And the people financing the building were convincing enough. (Influential backers will bring tenants into a building almost regardless of its location.) But the sequence of events was disconcerting, and the real estate experts were sitting tight.

As for Mr. Raskob and his friends, they merely remarked that their building stood midway between the Grand Central Station serving Connecticut and New York and the Pennsylvania Station serving Long Island and New Jersey, that those terminals were probably fixed for all time, and that the section between them was a convenient location for an office building. In September, 1929, they formed Empire State, Inc., with the former governor of New York as president, and the corporation went to work.

Courtesy of Ingersoll-Rand Co.

The Waldorf ballroom where Lily Langtry danced and Diamond Jim Brady sparkled and Mrs. Bradley-Martin stole the front page from the Spanish War makes way for the Empire State Building. Already at the time of the photograph the paper construction of the Empire State was well advanced. The typical floor plans had been evolved, the architect's design was accepted, the financing arranged, the builder employed, the builder's organization set up, and the progress chart, with its provision for the completion of plans and details, etc., established.

First act

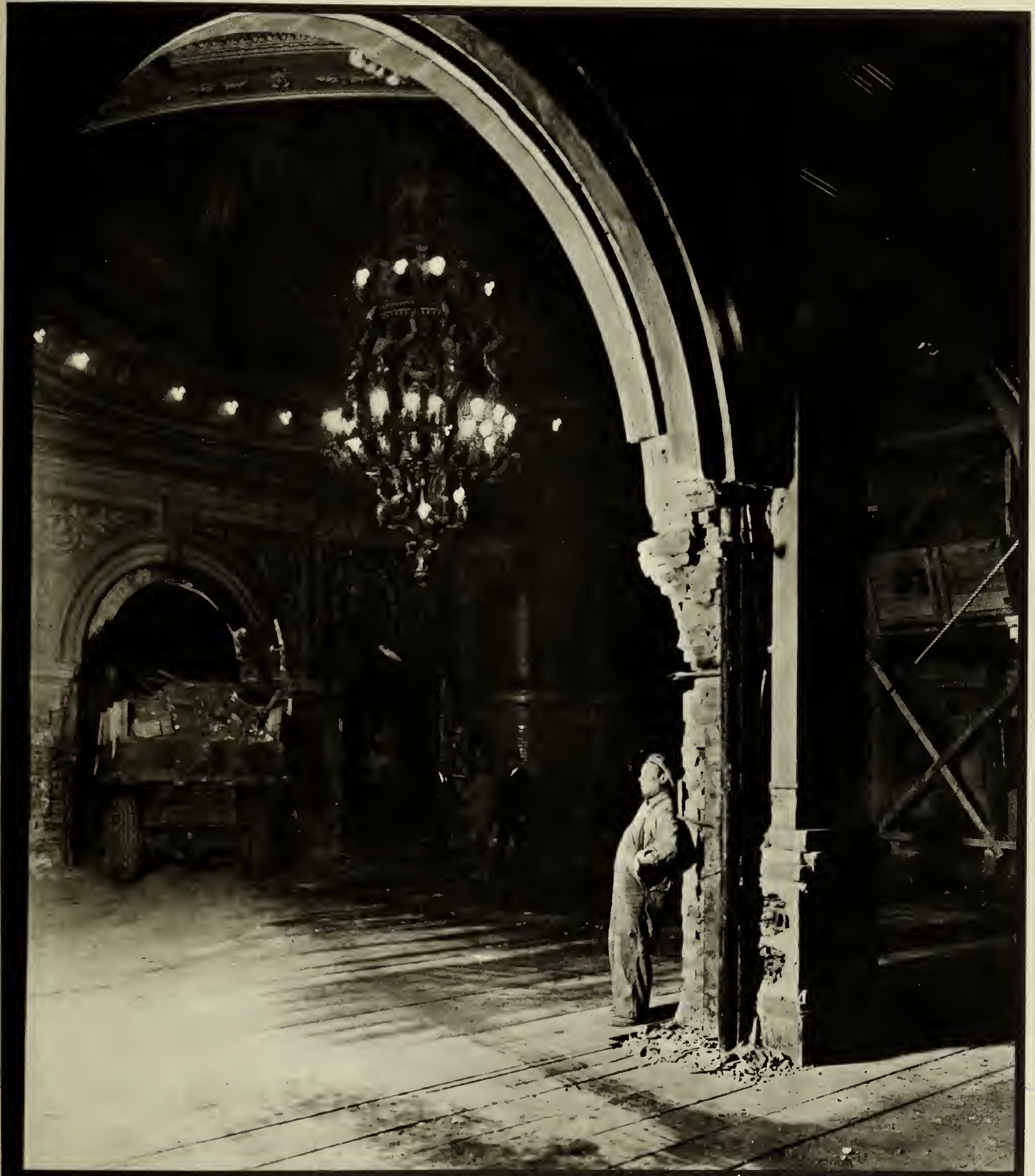
Its first act was to decide on 36,000,000 cubic feet of building. Ordinarily the decision as to cubic content is one of the by-products of the architect's plans, but Empire State, Inc., knowing the approximate cost of building one cubic foot of skyscraper and knowing how much it had to spend, determined the matter once for all by dividing their dollars by the cost per cubic foot, with the 36,000,000 result. The corporation's second act was to retain the architectural firm of Shreve, Lamb & Harmon. There remained for the future the most difficult decisions of them all: to what height and in what general form should a 36,000,000 cubic foot building on this particular plot of land, bought at this particular price, be built? In other words, what is the "economic height" (the height which will give the maximum ultimate return) of a skyscraper?

The answer to that question depends upon a great many considerations: the cost of the land (heavy land costs force buildings into the air), the shape of the plot (irregular shapes limit height), zoning restrictions (legal limitations upon height), and building costs (the cost per square foot of rentable area tends to rise as the height of the building rises).

In the Empire State Building the given elements of the problem were these:

1. The cost of the land (including carrying charges, transfer and legal fees, title insurance, etc.) was about $17,500,000 or something over $200 per square foot.
2. The lot was regular in shape and contained 83,860 square feet—almost two acres.
3. The corporation was willing to go to 36,000,000 cubic feet. In terms of money this meant something up to $35,000,000 for the building alone. Cubic foot estimates are only approximate and may vary (with all fees, bonds, and insurance included) from fifty to eighty-five cents per cubic foot. But they increase as the height of the building increases and in an abnormally high building would exceed the higher of these two figures.
4. Zoning laws permitted a height of 125 feet for the Fifth Avenue frontage. Unlimited height was allowed only for that part built on one quarter of the area of the plot.
5. The time element was fixed by the accidents of the calendar. The corporation having been formed in September, 1929, and the architect retained in that month, and May 1 being the date of expiration of most office leases, and May 1, 1930, being out of the question, May 1, 1931, was fixed upon as the date of completion. This allowed a year and eight or nine months for doing what had been generally assumed, before The Manhattan Company Building was built, to require two years or more. But the enormous interest charges and tax costs during construction and the estimated $10,000 a day of full running costs thereafter made

[*Continued on page 119*]



Courtesy of Ingersoll-Rand Co.

THE TRUCK ON THE BALLROOM FLOOR

BURLINGAME
PUBLIC
LIB.

Newspictures Ignore Profit & Loss

A business which demands skill and prays for luck—important because the twelve largest English language newspapers are pictorial.

BURLINGAME
PUBLIC

NEWSPICTURES is a business in which the name of Mr. William Randolph Hearst is justly honored and stands high.

Newspictures is not a business like another. Basically it is absurdly simple. Something important happens and is recorded by the newscamera's cold eye. That is all. Except that important things happen in broad daylight, storms, pitch-black night, leagues under the sea, miles above the earth, in planes, trains, ships, buildings, bathtubs.

The newspicture man brings you everything. On succeeding pages appears a charivari of his wonders.

King Hearst

In the roaring California nineties, when Mr. Hearst personally edited his San Francisco *Examiner*, he began to make those regal gestures which soon stamped him as the undisputed King of Newspictures. In 1897 we find Mr. Hearst chartering a special train to rush pictures of the Corbett-Fitzsimmons fisticuffing at Carson City, Nevada, to him ahead of the U. S. mail. No other editor dreamed then of such "wild extravagance" —thousands of dollars instead of a two cent stamp! But the scoop made Hearst *Examiner* circulation jump like a cow pony stung by a wasp. When the mail train finally chugged in with fight pictures for other San Francisco papers, they did not print them, fearing mockery for being "on the freight."

Underwood & Underwood

W. R. H.

Newspicturemen: "He made us what we are today, and we are satisfied."

Scooping the War

It has been said that Mr. Hearst was the only newspicture executive who foresaw the World War as it would affect his business. Certainly he made expensive contacts years ahead of 1914. They included digging up a German doubly gifted with high official contacts and a talent for wangling results who could be trusted to lay out a little slush fund where it would do the most good. In the early months of the War, when pictures were at their highest premium, Mr. Hearst was more than ever King. His henchmen obtained scoop after scoop from behind the German lines, from within the iron ring of Imperial censorship, from between the destructive German eagle's very talons.

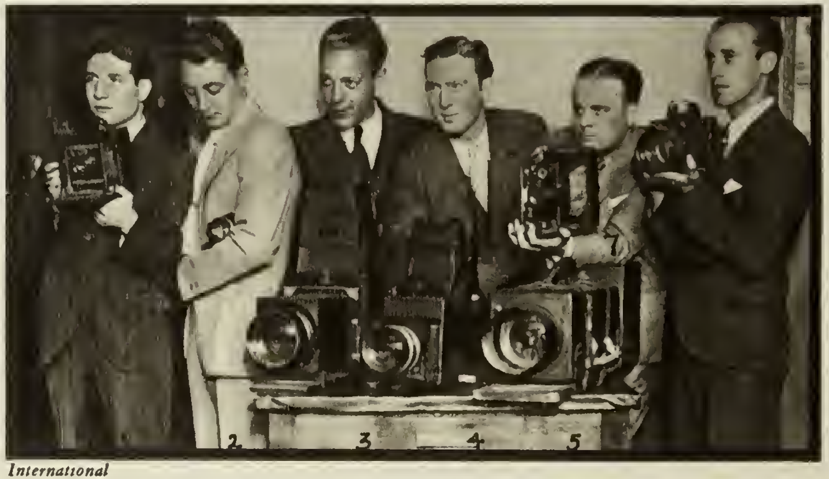
In those first pictures there were thundering shock and thrill. To a world that had only looked on peace, the Hearst organization brought pictures of enormous Belgian fortresses blown to chunks. Above the ruins posed spruce Prussian officers, booted and gloved, wearing their natty binoculars as though at a horse race. Mud-crusted gas masks came later.

From within the Belgian lines came pictures of grim, heroic, vain resistance. In those days it was indeed *Deutschland über Alles!* From the sea came perhaps the outstanding Hearst scoop picture of the War: the sinking of the British dreadnaught *Audacious* (see page 62). Briefly, it was not until four years and one day after this event that the British Admiralty admitted that Mr. Hearst had been right when he revealed the sinking of the *Audacious* in his New York *American* on November 13, 1914. When the truth came out, on November 14, 1918, it was relegated to an inside page of Mr. Och's New York *Times* while the front page, very properly, rang with "Peace on Earth."

Admiral Jellicoe's relentless (and silly) attempt to keep secret the sinking of the *Audacious* roused Lord Northcliffe to begin his savage and partially successful battle with the British censor's office for the release of "legitimate news." The reward of Mr. Hearst was to have his papers excluded after 1916 from all parts of the British Empire, including Canada, "for the duration." In the latter War years scoops and private initiative of any sort became impossible. The entire U. S. press was spoon fed such Allied propaganda as the story (with pictures) of the German "Corpse Factories," a story which the British officer responsible, Brigadier General John Charteris, has since admitted to friends at the National Arts Club in New York City to have been an absolute invention.

Hearst in peace

Since the War Mr. Hearst has been the only news magnate to extend his activities into the cinema field. He was dabbling in this as early as 1914. Pathé had pioneered the newsreel in 1910, but it was Mr. Hearst who made Ancel Wallace the first newsreel foreign correspondent by sending him to Mexico City. Another Hearst cinemaman, name of Ariel Varges, was sent to Palm Beach to make the first open-air shots



International

HEARST MEN AND HEARST CAMERAS

Behind No. 3 is Tony Sarno, who knows by sight every prominent man, woman, and child in New York. Nestling in the crook of a photographer's arm is No. 2, a "Candid Camera" used for picturing people indoors without their knowledge. With No. 6 a sharp "Candid" picture of the Court of Honor can be made from the opposite side of a large ballroom. Nos. 1 and 7 are ordinary newspicture cameras, Nos. 3 and 4 telescopics, and No. 5 is "Big Bertha," the superspeed telescopic which will make a picture of a baseball leaving the bat a quarter of a mile away.

of social celebrities. Previously the few films of this sort in existence were studio-made. The novelty of watching real and important people move about in the open air while one sat indoors—what a palpitating thrill that was!

In 1929 Mr. Hearst decided that the silent newsreel was definitely dead, though only some 10,000 theatres are yet wired for sound. Today the Fox-Hearst Corp., producing Fox Movietone and Hearst Metrotone talking newsreels, claims to supply "considerably more than half" the films of this character seen and heard throughout the land. With a fleet of sixty-five motor trucks equipped to make talking newsreels, each costing $35,000, the regal tradition is maintained. The King of Denmark and Iceland, His Majesty Christian X, recently consented to follow one of these newspicture trucks in order that posterity might observe his equestrianism and hear the hoofbeats of his horse!

"What's funny about that?" challenges a bristling Fox-Hearst newstalkie editor. "Maybe that day the King didn't have anything he wanted to say!" (On page 64 His Majesty rides clop, clop, clop.)

International

Forced to pose with delegations on the White House lawn, always with the sun in his eyes, no President is at his best. Taken under more favorable conditions, this newspicture is probably the best yet made of Mr. Hoover.

In the last few months Mr. Hearst has discovered his latest news toy, the newest wrinkle to keep his newspicture men ahead of others in some definite phase of technique. This is the "Candid Camera," a German contraption seemingly all lense, with which pictures can be taken of people without their knowing it across a room lit by ordinary electric light. English celebrities seem rather to relish being caught in all kinds of characteristic but often ludicrous attitudes, enjoy being played up in the next issue of the London *Graphic* above a kindly caption. Perhaps fearing that the captions will not be so kindly, American celebrities, especially Senators, shy and buck at the "Candid Camera." Thus far Mr. Hearst alone in the U. S. has equipped his International picture staff with this latest news weapon. The order came from W. R. personally, flashed from his California ranch. Pioneer and pacemaker, he had just scanned the *first* "Candid Camera" issue of the London *Graphic.*

Big Five: big news

Newspictures as a world business is conducted by the following Big Five:

Int. or Hearst International News Photos, Inc. by Mr. Walter Howey.

A. P.—the Associated Press Photo Service by Mr. Norris H. Huse.

P. & A.—the Chicago *Tribune*-New York *Daily News*' Pacific & Atlantic Photos, Inc. by Mr. Harold B. Baker.

Acme—the Scripps-Howard papers' Acme News Pictures, Inc. by Mr. Robert P. Dorman.

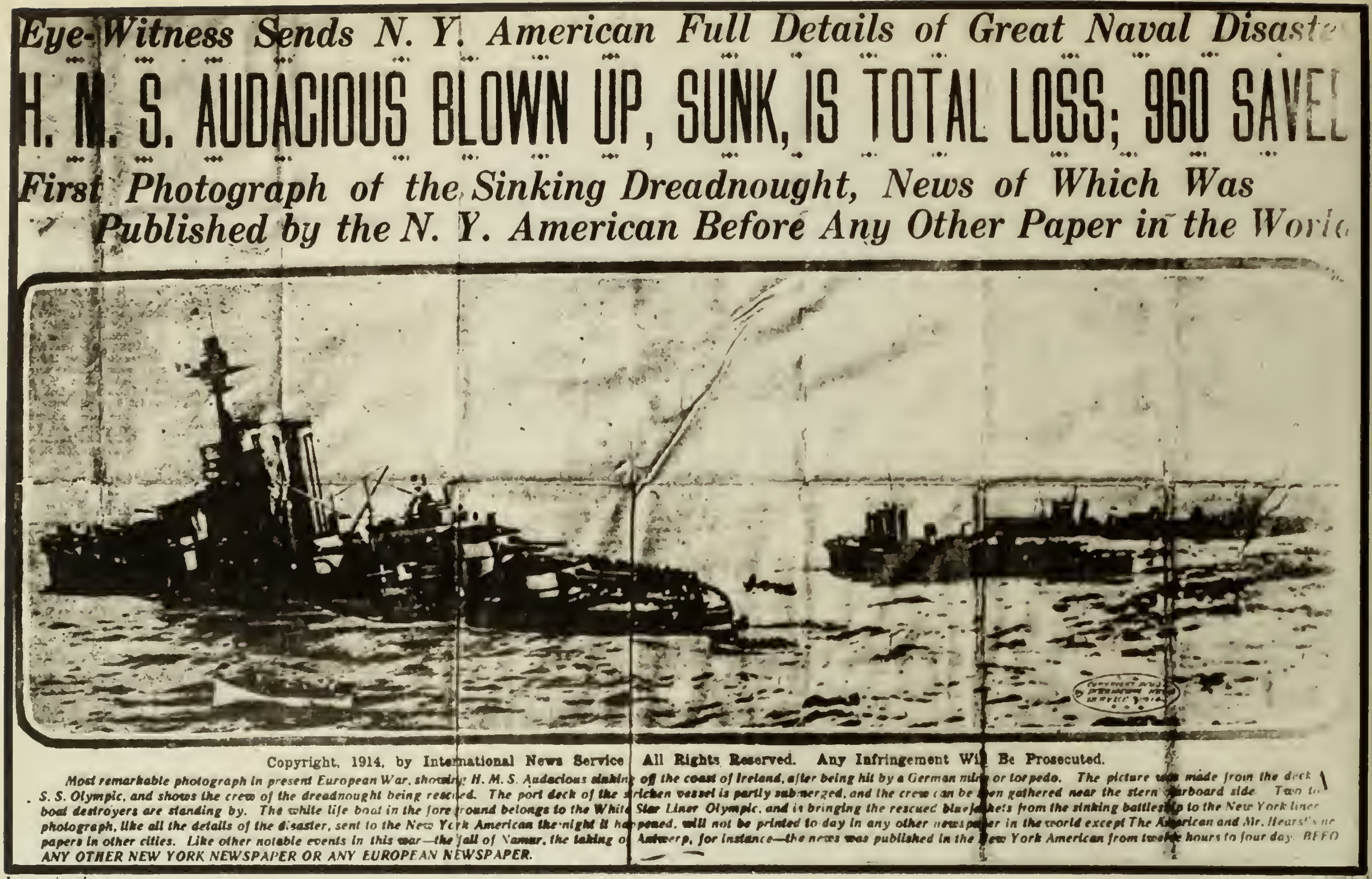
Wide World—the New York *Times*' Wide World Photos, Inc. by Mr. Frank J. Gilloon.

Just now the big news in newspictures is that A. P. (youngest) is rapidly on the make and badgering the other services with terrific competition. The reason why A. P. is

International

Few other Presidents have appeared to such advantage in newspictures. Few have arrayed themselves so variously. In this picture even the light is kind to Mr. Coolidge; even the Pierce Arrow visible in the background does not detract from an effect of almost Biblical simplicity.

LINGA
LIB.



Eye-Witness Sends N. Y. American Full Details of Great Naval Disast

H. M. S. AUDACIOUS BLOWN UP, SUNK, IS TOTAL LOSS; 960 SAVE

First Photograph of the Sinking Dreadnought, News of Which Was Published by the N. Y. American Before Any Other Paper in the Worl

Copyright, 1914, by International News Service All Rights Reserved. Any Infringement Will Be Prosecuted.

Most remarkable photograph in present European War, showing H. M. S. Audacious sinking off the coast of Ireland, after being hit by a German mine or torpedo. The picture was made from the deck
S. S. Olympic, and shows the crew of the dreadnought being rescued. The port deck of the stricken vessel is partly submerged, and the crew can be seen gathered near the stern starboard side. Two to
boat destroyers are standing by. The white life boat in the fore ground belongs to the White Star Liner Olympic, and is bringing the rescued bluejackets from the sinking battleship to the New York liner
photograph, like all the details of the disaster, sent to the New York American the night it happened, will not be printed to-day in any other newspaper in the world except The American and Mr. Hearst's ne
papers in other cities. Like other notable events in this war—the fall of Namur, the taking of Antwerp, for instance—the news was published in the New York American from twelve hours to four day. BEFO
ANY OTHER NEW YORK NEWSPAPER OR ANY EUROPEAN NEWSPAPER.

International

PUBI

International

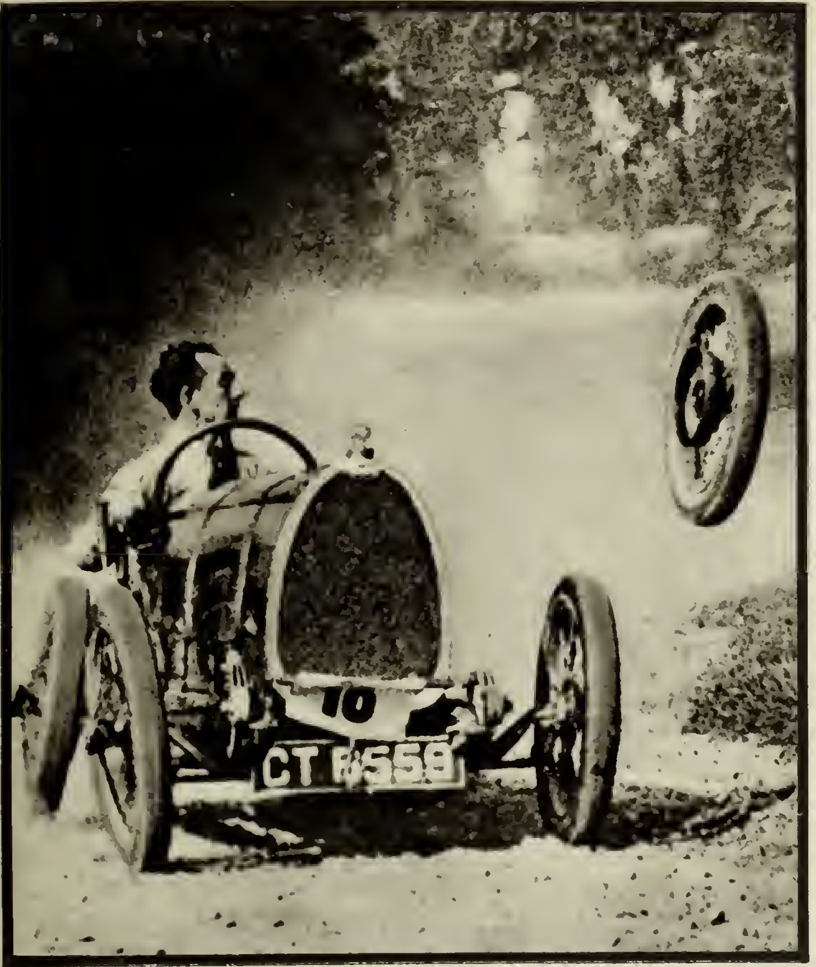
THE FALL OF NAMUR

Above the crumbled parapet stands a spruce figure who seems to symbolize *Deutschland über Alles.*

International

BELGIANS ABOUT TO BE DESTROYED

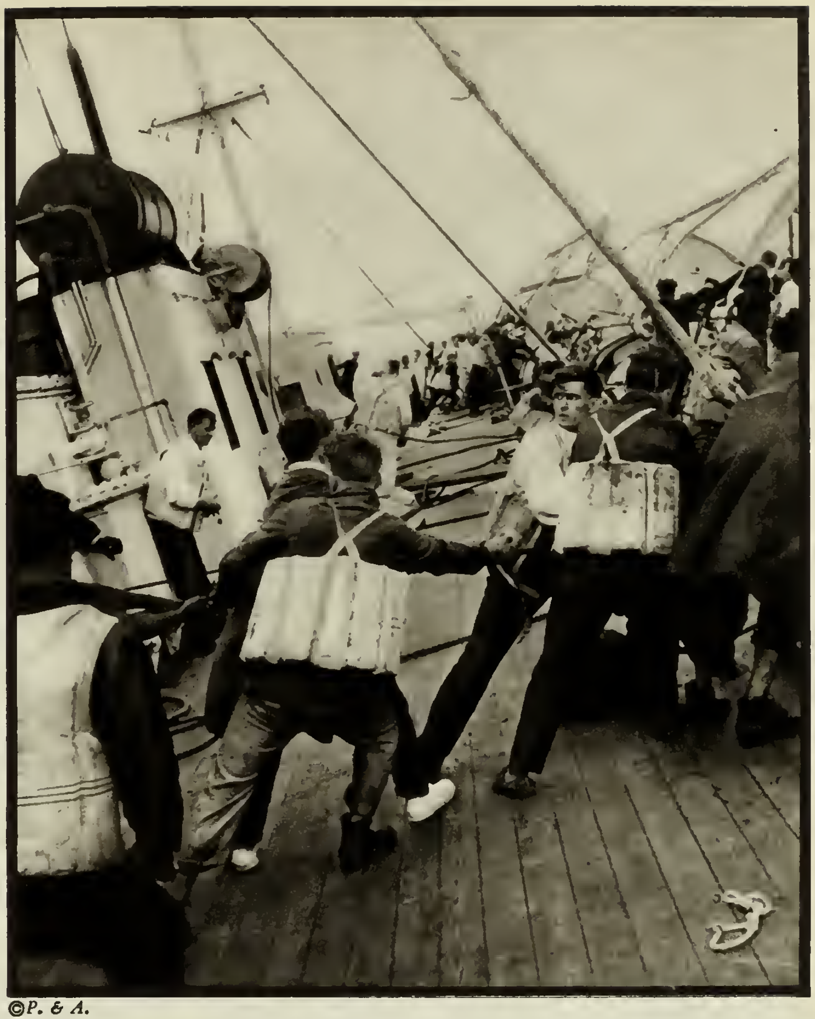
Although the Germans, who overpowered these Belgians, have not yet appeared on the far side of Willebroeck canal, young hot-heads crouch and aim while veterans placidly lunch.



International

INTEREST

As the rear wheel of his Bugatti leaves him at sixty miles per hour, Mr. Raymond Mays seems interested and of fear he shows not a trace. The Bugatti dragged to a stop without spilling or injuring its driver.

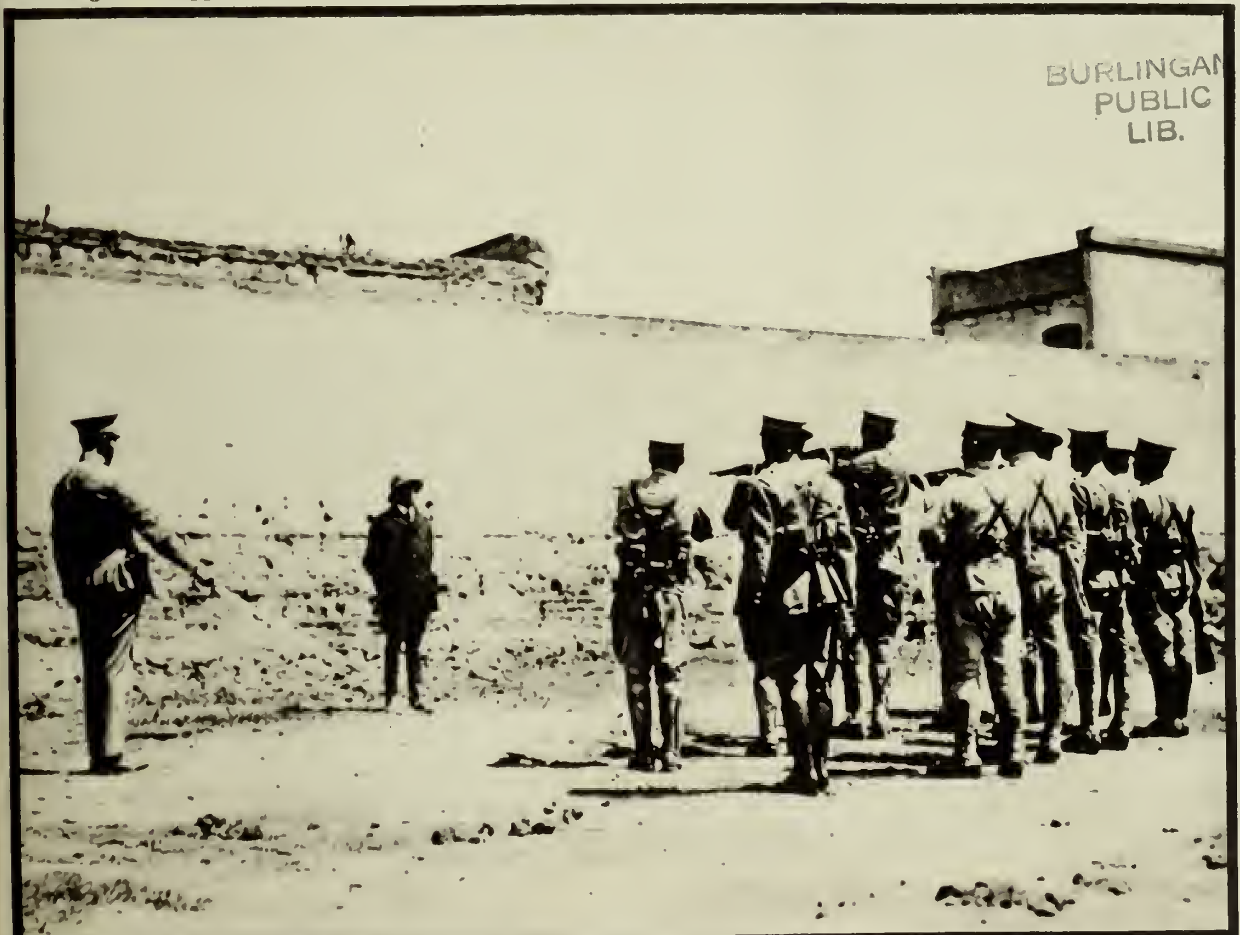


©P. & A.

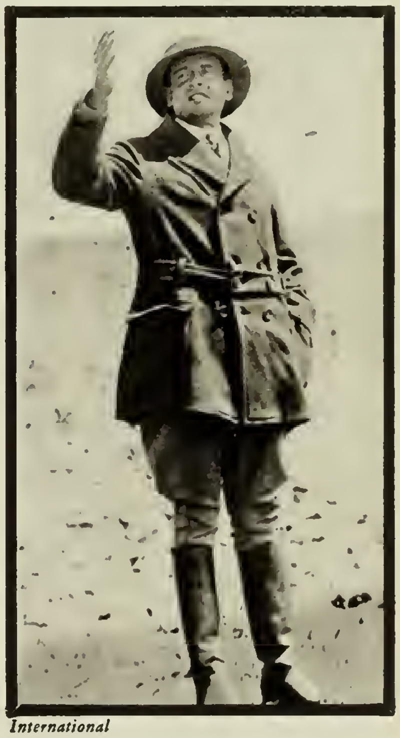
PANIC

Passengers on the *S. S. Vestris.* To visualize the tilt, hold this picture so that the ropes suspending the unlaunched lifeboats are perpendicular.

BURLINGAME
PUBLIC
LIB.



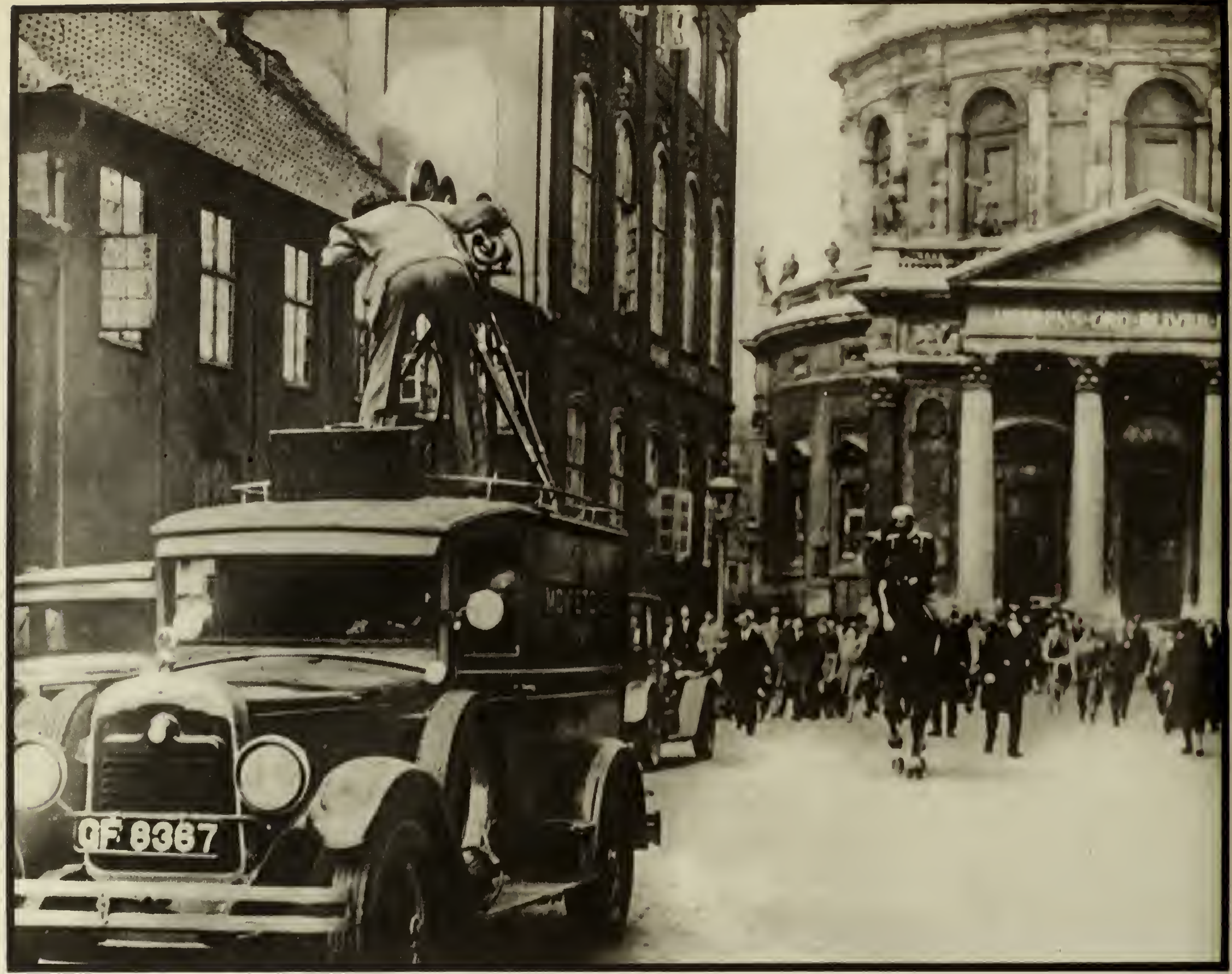
International



International

COURAGE

A gallant Mexican who fought on the wrong side during the Serrano-Gomez revolt of 1927: General Alfredo Rueda Quijano. Above, saying goodby five minutes before his execution; left, ten seconds before the volley.



© International

ROYAL HUMILITY

So that commoners may enjoy the sound of his horse's hoofbeats, His Majesty Christian X, King of Denmark and Iceland, consented to follow a newstalkie truck. Cost of truck, camera, and sound recorder complete: $35,000.

able to play Little David in an arena crowded with Goliaths will presently appear.

It costs so much to make newspictures that the founders of the industry were necessarily men like Mr. Hearst, dynamic proprietors of wealthy newspaper chains who could and did say in effect:

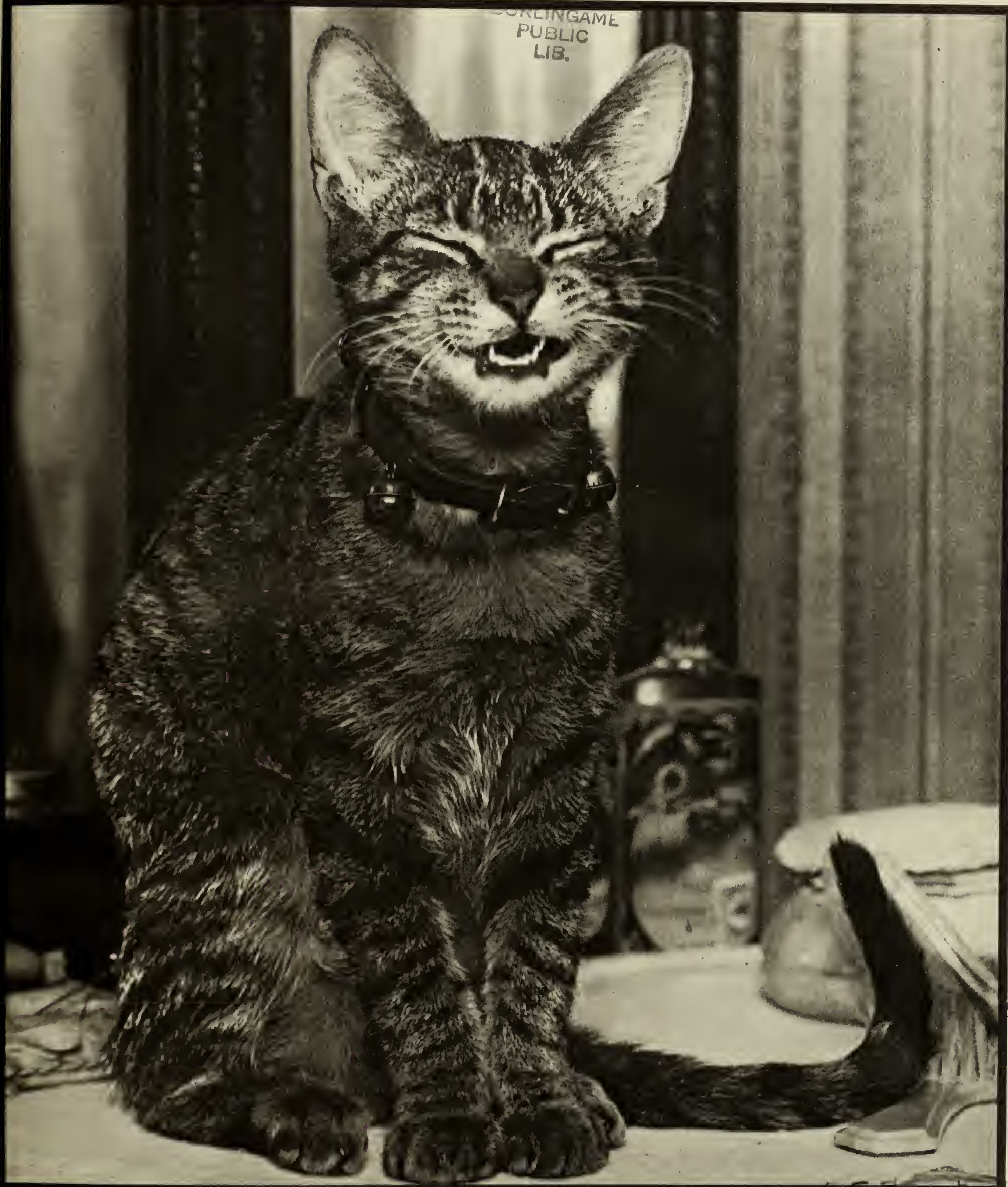
"Get me the best pictures in the shortest possible time. Damn the cost! The prestige of my papers demands complete picture coverage and as many scoops on top of that as you can get!"

The old guard firms still sail under these lusty orders, defying Economics in the name of Prestige. After satisfying the imperative needs of the newspaper chains or feature syndicates of which they are subsidiaries, they try not to make ends meet but to make them approach. This is accomplished by peddling their surplus prints to outside papers.

A few salesmen and many mail carriers rush out daily with these offerings. The individual newspaper editor, when he gets a batch of prints, merely picks out and pays for those that please him, sending back the rest (or all), which become so much dead loss. Who shall say that this is an uncertain, wasteful, basically uneconomic, positively absurd mode of distribution? It is the way other things are sold wherever traveling salesmen travel.

Entering the newspicture business as an experiment, only two and one-half years ago, the A. P. or Little David outfit started with two basic assumptions: first, that each of the Associated Press news correspondents throughout the world was a potential news cameraman or at least had sense enough to buy newspictures from local photographers; secondly, that the thousands of newspapers

Ernest C. Rawleigh



BURLINGAME
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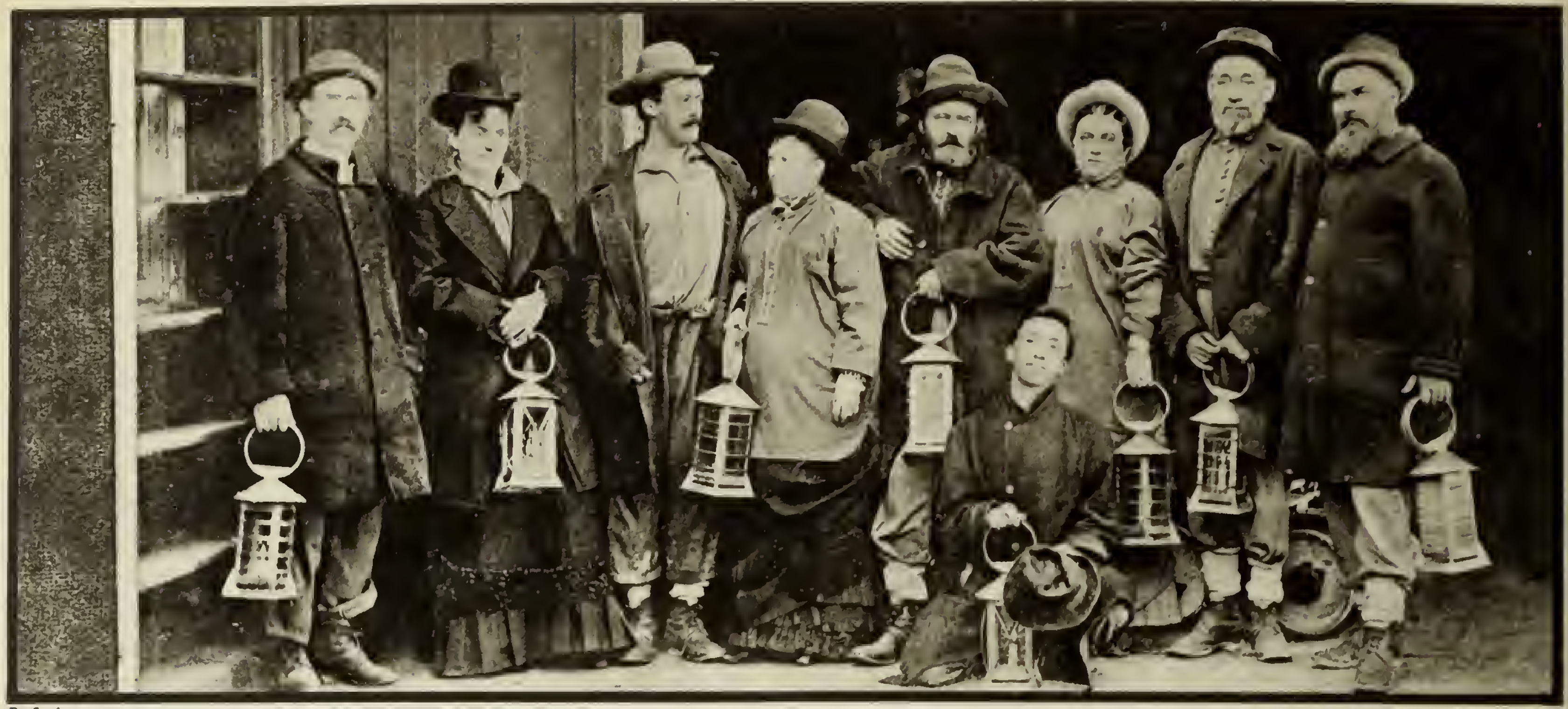
Underwood & Underwood

"THE LAUGHING CAT"

The cat (above) and kitten (opposite) are the largest selling newspictures of all time. Two small but prosperous corporations sell them in monthly thousands on calendars, novelties, and cheer-you-up cards. "The Laughing Kitten" is always sold captioned, "Ha! Ha! Ha! It must be so!"



P. & A.

PRESIDENT GRANT WITH PARENTS OF ARISTOCRATS

Center, President Grant. Extreme left, John W. Mackay, father of Clarence Mackay. Extreme right, J. G. Fair, father of Mrs. W. K. Vanderbilt and of Mrs. Herman Oelrichs. The lady in the derby hat is Mrs. M. G. Gillette. Next to her the President's son, Mr. U. S. Grant, with Mrs. Grant Sr. Kneeling before the President, cook boy Yanada. Behind him Mrs. Fair, next to her Governor Kinkead of Nevada. This newspicture was taken during President Grant's inspection of the Bonanza Mine, basis of the Mackay-Fair fortunes. Old John Mackay, "Prince of Miners" and "Boss of the Big Bonanza," emigrated from Ireland, swung a pick and shovel, died worth more than $60,000,000.

receiving A. P. news service could be signed up to take a package of A. P. newspictures every day at a flat rate.

Both of these assumptions have proved correct. As an inducement A. P. makes their newspicture contracts cancelable by the member papers at any moment. They have now signed up some 600 papers and claim that not one has canceled. As A & P stores make things hard for the traveling salesmen of canned groceries, so A. P. is crowding the peddlers of pictures.

"The little ladies"

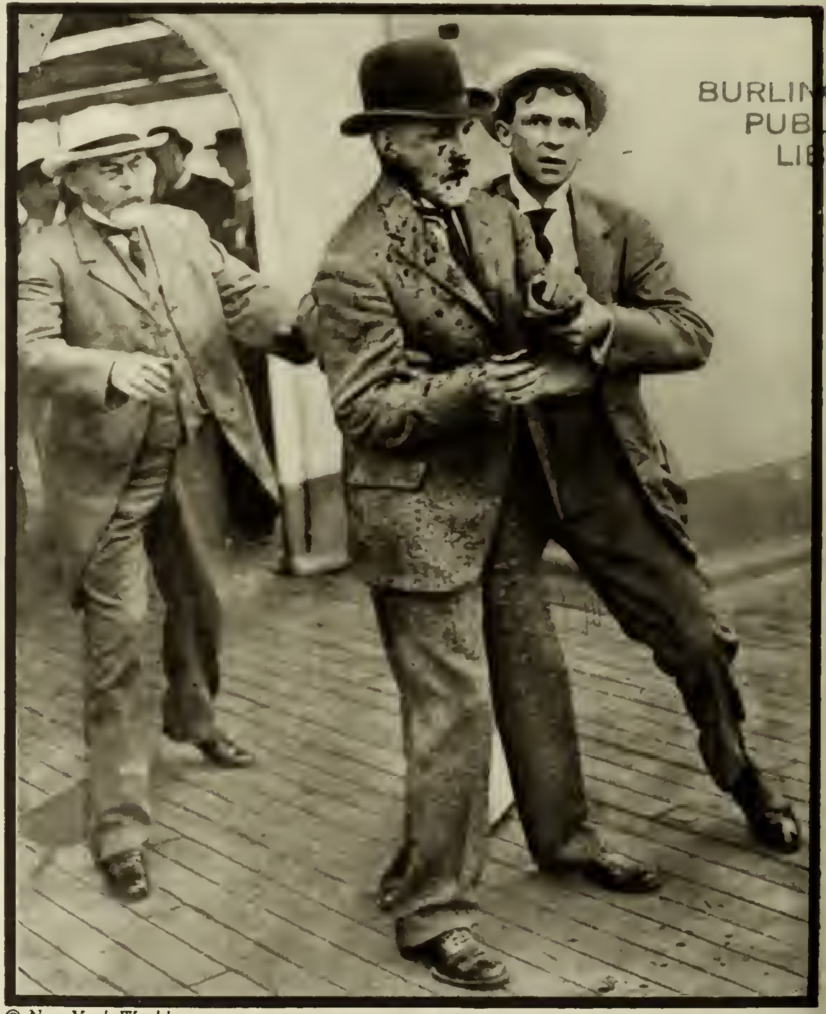
Picturesque are the old guard picture salesmen, whom it is cruel but necessary to call peddlers. Their packs are leather briefcases expanded to an astounding bulge by a load that may run to 500 pictures or more. Although garbed and mannered like other aggressive salesmen, their weapon is not ten-cent cigars but something mysterious, cheaper, and possibly more effective.

Facing an editor-client who exhibits the malady of sales resistance they may, when other remedies have failed, attempt to cure him by the talismanic words:

"Perhaps you'd like to see our boys latest bunch of little ladies?"

If the patient stirs and mumbles favorably, out of the pack whisks a tightly clipped envelope. From it appear pictures of local burlesque beauties and night-club hostesses, all in the particularly total nude. "Perhaps you know this one?" suggests the salesman. And perhaps the grand-old, two-fisted, he-editor does. Even for the less robust the "little ladies" may have an attraction. There is no sight so hilariously funny or so sordidly pathetic, according to one's mood, as a forty-year-old burlesque *ingénue*, reclining "well preserved" in a Cleopatran attitude on a cheap, overstuffed lounge clad in shoes and stockings.

How are such pictures obtained? "It's a cinch!" the salesmen readily explain. "When a little lady is having her reg'lar picture taken, why naturally she don't mind obliging the boys afterward,



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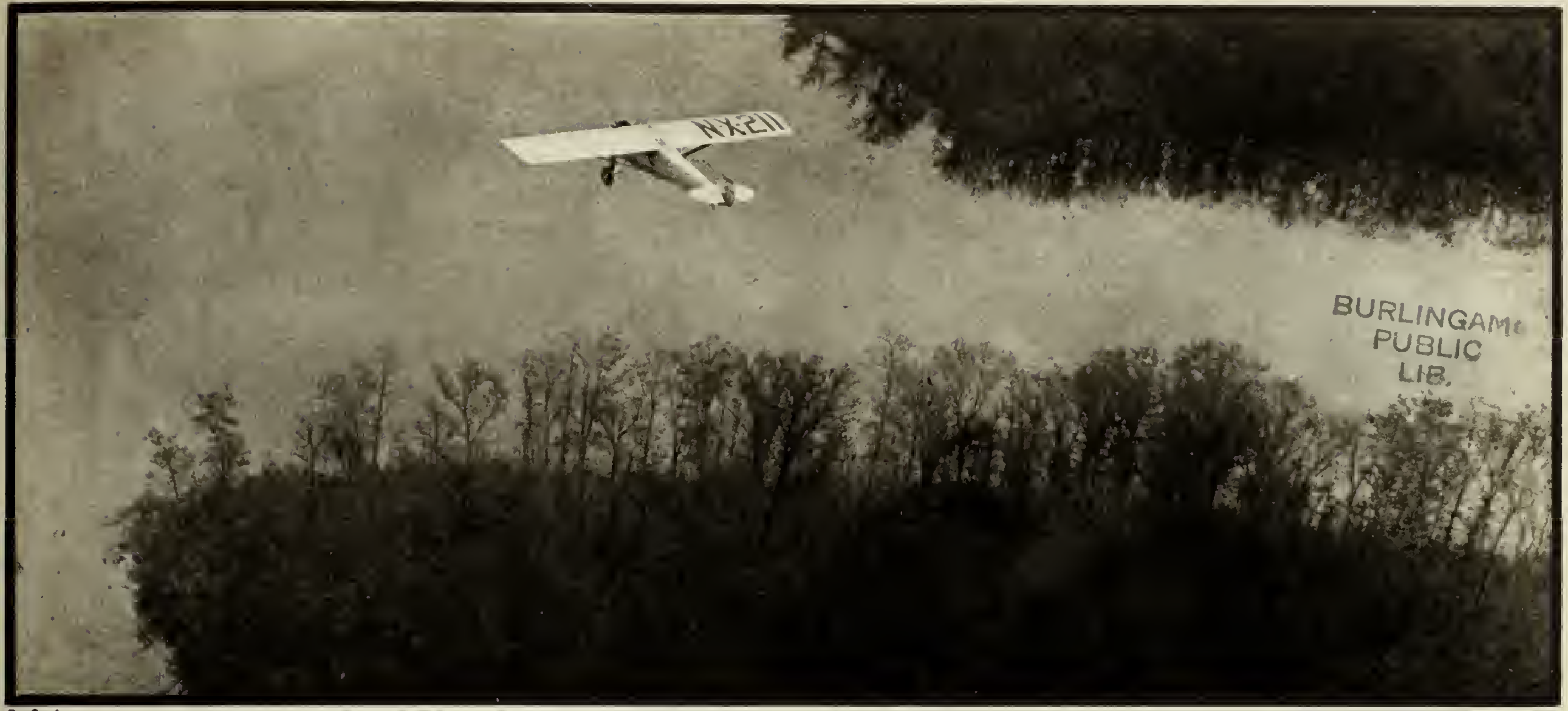
© *New York World*

"A BREAK"—1910

A great newspicture is often the result of a "break" (fate). When Mayor William J. Gaynor of New York was about to sail on the *Kaiserina Augusta Victoria*, the New York *World* cameraman, Bill Waneke, arrived "too late," so late that he was the only newspictureman present when a would-be assassin fired on the mayor. Mr. Gaynor, who lived for three years after this picture was taken and would never allow the bullet to be removed, always spoke of it as "this fishhook in my throat."



BURLINGAME PUBLIC LIB.

P. & A.

"WE"

Captain (later Colonel) Charles Augustus Lindbergh Sr. in the *Spirit of St. Louis*, leaving America on the first and only successful trans-Atlantic flight to Paris. He was followed by a P. & A. newsplane, which turned back with its unpredictably precious negative when he was 100 miles at sea.

so's they'll try to get her reg'lar picture printed. It's all part of the public'ty business, see?"

Prestige is profit!

Are the old guard newspicture executives downhearted about the poor results of peddling? By no means! They are successful business men creating Profit in the form of Prestige. One ghastly picture—Ruth Snyder "burning" in the electric chair—when slapped upon the front page of the New York *Daily News* jumped sales 500,000 extra copies.

© Acme

"THE VIKING HEAD"

Copies of this three-year-old Acme newspicture are still sold in quantities to be distributed as rewards for learning one's Sunday school lesson.

The panic pictures of passengers aboard the sinking *S. S. Vestris* (see page 63) were another scoop for the same Manhattan tabloid and its parent, the Chicago *Tribune*. Bought "dirt cheap" for $1,200 from the amateur who snapped them, the *Vestris* pictures were valued by *Tribune-News* editors so highly as Prestige, that, at the time, they would not sell these negatives at any price.

Now that stocks and bonds of the Hearst enterprises are being sold to the public, Mr. Howey of International has to think fast. There were squawks a few months ago that he was spending too much. With a snort worthy of W. R. himself, Mr. Howey plunged into a survey of the entire English language press. Soon he had figures to prove that the twelve circulation leaders, five English and seven American papers, all carry at least one full page of pictures daily and intersperse others throughout the text. Today the left half of envelopes in which International mails pictures is splashed with a thundering slogan: THE WORLD'S TWELVE LEADERS ARE PICTORIAL PAPERS AND EIGHT OF THEM USE INTERNATIONAL NEWS PHOTOS. It was a tough assignment, but Mr. Howey feels he has proved the case for Prestige, and Mr. Hearst has said in effect: "Spend whatever is necessary to keep up the pace you have been setting." This includes exclusive pictures taken from the round-the-world *Graf Zeppelin* at a cost of $50,000, distribution of the Sharkey-Schmeling pictures (see page 107) to their clients throughout the country hours ahead of competitors, and the first picture showing Pope Pius XI emerging for the first time from the Vatican. Like all newspicture executives, Mr. Howey hires an ambulance and equips it as a developing darkroom whenever pictures must be rushed across a crowded city and developed en route.

Mr. Ochs: Underwood & Underwood

Pictures which appear in the New York *Times* and affiliated rotogravures must never ruffle, and should if possible contribute to the reader's peace of mind. In the Wide World office Mr. Gilloon quietly assembles

[*Continued on page 107*]

International

"THE LAUGHING HEAD"

Hawked on the streets to people who had never seen their hero laugh, this picture had a meteoric sale of 2,000,000 copies, but is dead today.

Bourke-White

ΒΡΕΚΕΚΕΚῈΞ ΚΟᾺΞ ΚΟΆΞ (Brek-ek-ek-ex, ko-ax, ko-ax)

Into the line between man and death Parke, Davis & Co. throw 12,000 frogs a year, for the purpose of testing digitalis, the leaf of the common foxglove and greatest of heart stimulants. One of the most difficult drugs to standardize, the administration of digitalis used to be risky guesswork. Now the effect of each lot is ascertained by injecting samples of it into frogs—cold-blooded animals being used because of the independent action of their hearts. To determine the lethal effect of each sample, a frog must die. Digitalis makes the heartbeat strong but slow, allowing the heart to recuperate between beats. If a pulse rate of 120 a minute is reduced to 100, the heart is saved 28,800 beats a day, and the total period of heart-rest between beats is increased by four hours. Awaiting their turns the frogs are sprayed with water behind a glass door at twenty degrees Centigrade.

Parke, Davis & Co.—E. R. Squibb & Sons

Their relations with an individual named B. Tetani; how they saved Johnnie Jones from lockjaw by means of him; how they sometimes revive the dead. The ethics and perils of drug manufacture; its "islands" of Langerhans; its ill-fated horses, rats, frogs, goats, monkeys, and dogs; the sixteen doctors who scrutinize everything.

P. & A.

DR. F. G. BANTING

Of the University of Toronto, whose spectacular extraction of insulin in 1921 has doubled the life span of some people.

DR. OLIVER KAMM

Parke, Davis chemist and master of the pituitary gland, awarded $1,000 prize by American Association for the Advancement of Science, 1929.

P. & A.

DR. BELA SCHICK

Of Mount Sinai Hospital, New York, arch-foe of Bacillus Diphtheriæ, whose test divides all humanity into Schick-positive, Schick-negative.

URLINGAME
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I—Tetanus

BEHIND his father's barn in Kansas Johnnie Jones stepped on a nail. Since he was not supposed to be near the barn, he told no one what had happened. He noted that the nail was not rusty, but he did not see a tiny individual named B. Tetani who had been sitting on it. Once inside Johnnie's wound, protected from the air, B. Tetani began to produce a family (out of himself). Nine days later there were millions of B. Tetani in Johnnie's wound, all of them secreting tetanus toxin, the most lethal substance ever discovered, some twenty times as poisonous as dried cobra venom. Then Johnnie began to have trouble opening his jaw.

In a fright, Mrs. Jones called the doctor, a gentleman who knew his business and who produced two glass syringes, each containing 20,000 units (about three teaspoonfuls) of amber tetanus antitoxin, which he injected near Johnnie's wound. He also shot 10,000 units directly into Johnnie's spinal canal. He explained that B. Tetani lives harmlessly in the intestine of animals, even of man; that manure had deposited B. Tetani on Johnnie's nail; that early in the World War the appalling number of tetanus cases was caused by the highly fertilized soil of Belgium and Northern France. So Johnnie's jaws did not close forever; he became one of the millions who owe life itself to science.

The pale amber fluid that saved Johnnie did not just happen. Let us suppose that it was made by Parke, Davis & Co., of Detroit, world's largest pharmaceutical manufacturers. A room in the Parke, Davis plant on the breezy Detroit River contains 700 test tubes, in each a different kind of living bacteria, most of them forming a yellowish film on the surface of a solidified gelatinous material called agar. In one of them lives B. Tetani—millions of him. Individually he looks like a little stick with a knob on its end called a spore, but you cannot see this without a microscope.

B. Tetani in a test tube is an idle fellow; Parke, Davis' job is to put him to work, produce results from him on a balance sheet. To do this, a laboratory worker touches the colony in the test tube with a platinum wire probe, transfers a few B. Tetani to a container filled with meat broth and contrived so that B. Tetani will get no air. He is then taken to the incubator, a large room that looks like a locker room in a golf club, with two tiers of lockers. Inside of each incubator a different kind of germ is producing a prodigious family; in all of them enough bacteria could be produced to kill the combined populations of the U. S., Canada, Mexico, and the Argentine. The incubators are at blood temperature—one of them has never been cool since 1903. B. Tetani is put into an incubator.

Two weeks later he is taken out—billions of him. His broth is filtered through porcelain so fine that B. Tetani himself cannot get through. He dies, but his poison trickles into a bottle and is marked "Tetanus Toxin." Now the real manufacture of the serum that saved Johnnie's life begins. The factory is a horse—a factory of legs, blood, muscle, and bone, wandering among the pleasant trees and brooks of Parkedale (the Parke, Davis farm), cropping the grass. Of the 4,000 animals that inhabit Parkedale the horses are kings, for they manufacture most of the Parke, Davis serums. They are treated like patients in a hospital; able veterinarians guard them; their temperatures are taken daily; they are weighed; they have a "night nurse"—a stableman who gives them water when they need it, soothes them, keeps them clean. The great kings of the race track are less solicitously guarded; the great Percherons of the plow fields do no more work.

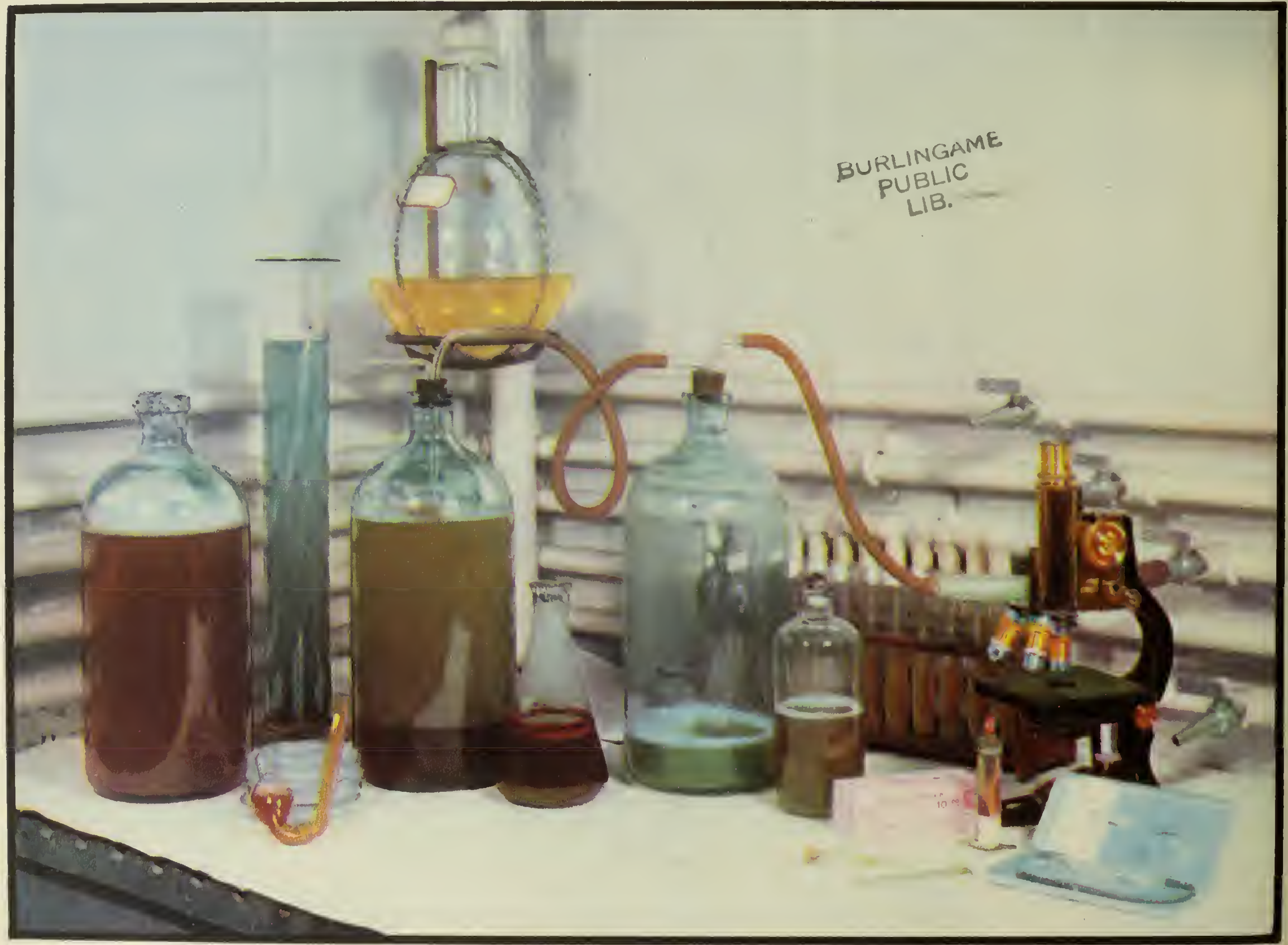
Into a healthy horse is injected a quantity of the poison from B. Tetani. It makes the horse sick, he runs a fever, but finally his blood manufactures what are known as antibodies—priceless substances capable of neutralizing bacterial poison. In his first injection the horse receives five cubic centimeters of poison—enough to kill 100,000 guinea pigs. He is injected three or four times a week for about four months, each dose larger than the last, until he is able to take 500 cubic centimeters, exterminant for 10,000,000 guinea pigs. By this time the horse is a living mine of antibodies; three gallons of his blood are drawn; and after some further processes to eliminate proteins (cause of serum sickness), the antitoxin that saved Johnnie's life is ready to be placed on the market.

II—Ether

When purchasing antitoxin from his pharmacist to save Johnnie Jones, the physician is not confined to a Parke, Davis serum. He may choose the product of any one of a dozen reliable pharmaceutical manufacturers. But in administering ether he does not stop to make a choice. Unless he wants to save ten or fifteen cents he will pick up a can of Ether-Squibb without further thought, for the house of E. R. Squibb & Sons—New York, Brooklyn, and New Brunswick, New Jersey—is recognized as the leading manufacturer of ether, having at least 75 per cent of the business. This has been true ever since Dr. E. R. Squibb developed a steam process for ether manufacture, which enabled him to supply most of the Union troops in the Civil War and to become the first producer of ether on more than a laboratory scale.

Of all pharmaceutical discoveries, anæsthetics have most advanced the science of medicine, changing the bloody screaming operating rooms of a mere century ago into rooms of quiet efficiency, opening unlimited fields to surgery, enabling the laboratory researcher to gaze into the future through the vitals of unconscious animals. As opposed to chloroform, used extensively in Europe, ether is the typical American general anæsthetic. It was first prepared by Valerius Cordus in the 16th century, having among other names that of *oleum dulce Paracelsi*, and Sir Isaac Newton performed some experiments with it a hundred years later, but it was put to no practical use until 1842, when Dr. Crawford W. Long of Georgia first used it to induce general anæsthesia in removing a tumor from a Mr. James Venable.

In its development of ether the house of Squibb has had other problems to solve than that of manufacture. Most anæsthetics deteriorate on exposure to air or to certain metals. Chloroform ($CHCl_2$) oxidizes into phosgene ($COCl_2$), the deadly poison of the World War. Though there is doubt whether the mild peroxides that ether forms in deterioration are harmful, their existence is a technical impurity which troubled the house of Squibb, purists *par excellence*, for



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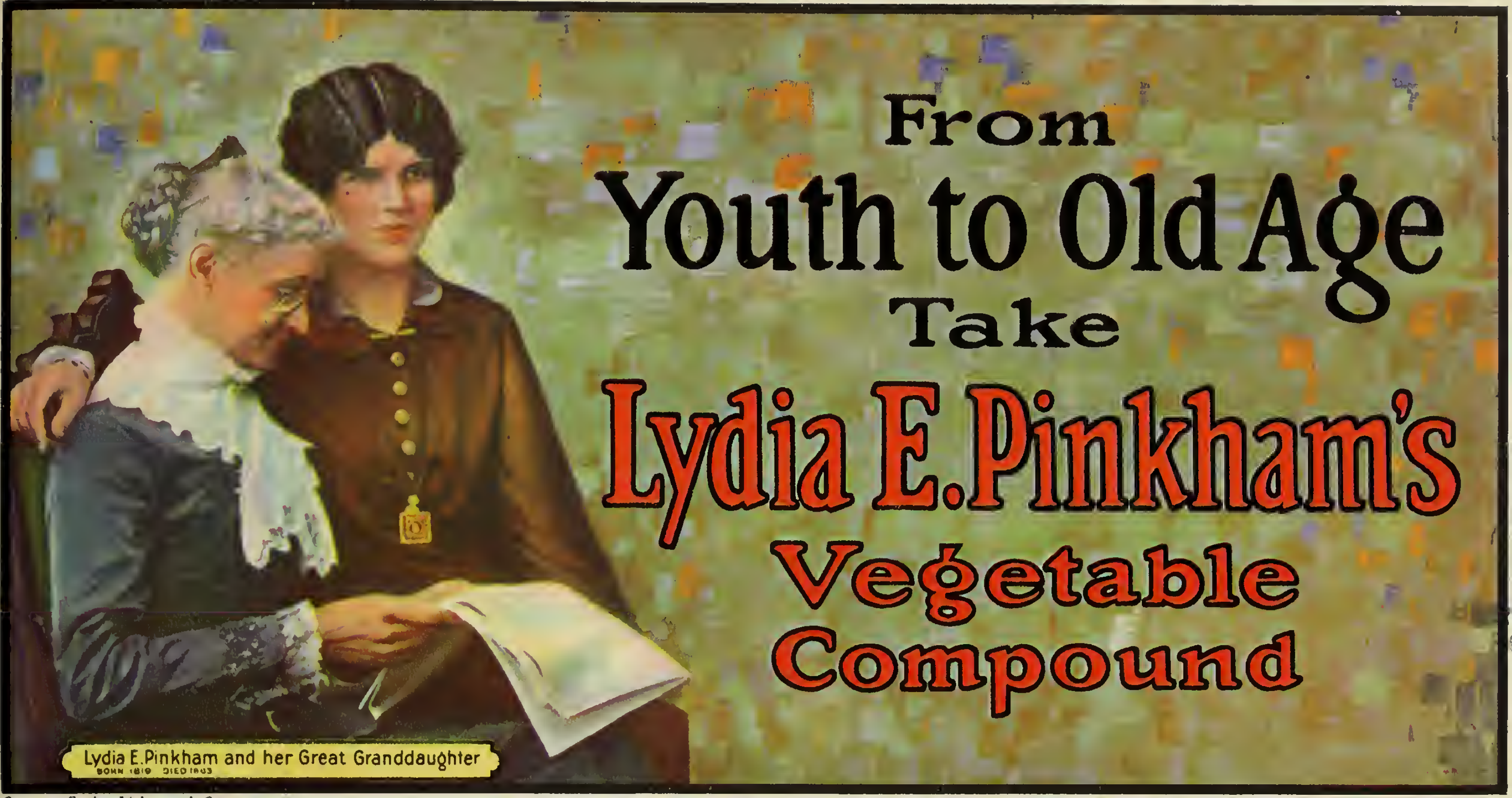
STEPS IN SQUIBB MANUFACTURE OF TETANUS ANTITOXIN: (1) METHYLENE BLUE BY WHICH B. TETANI IS OBSERVED; (2) DEADLY INCUBATING TUBE; (3) IMMUNIZED BLOOD OF A HORSE (LEFT) YIELDING (4) GREEN ANTITOXIN FLUID (RIGHT)



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Courtesy Forbes Lithograph Co.

A PRESENT DAY LYDIA E. PINKHAM MEDICINE CO. ADVERTISEMENT SHOWING MRS. PINKHAM WITH A GREAT-GRANDDAUGHTER SHE NEVER SAW

Story of a Compound

ELBERT HUBBARD, enthusiastic as usual, started with Deborah and Aspasia, skipped to Joan of Arc and Florence Nightingale, then placed Lydia Estes Pinkham in the evidently equally illustrious company of Julia Ward Howe, Harriet Beecher Stowe, Susan B. Anthony. He gloried in a parallel between Mrs. Pinkham and Queen Victoria, each born in the same year, although Mrs. Pinkham "occupied no throne . . . [and] was not born to the purple."

Some might doubt Mrs. Pinkham's right to have her name placed in such a gallery. But none can gainsay her fame or her compound's. Since 1879 her face has appeared, like King C. Gillette's on Gillette blade packages, on every bottle of her compound. Her name is spread today by $1,000,000 worth of advertising annually and $500,000 worth of promotion and by the egress from Lynn, Massachusetts, of 10,000 bottles of compound a day (and there are factories in Barcelona, Paris, Mexico City, and Cobourg, Ontario).

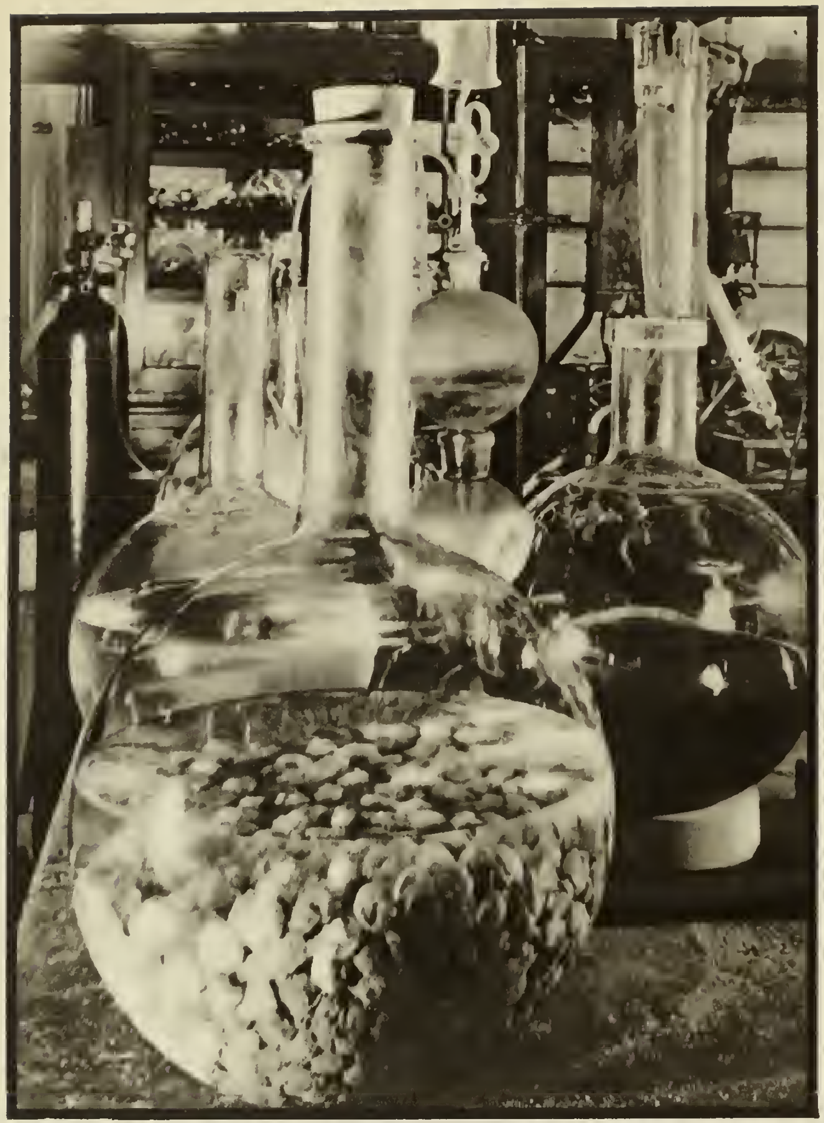
Quite accidentally did Mrs. Pinkham engage upon her career. The wife of a Lynn, Massachusetts, real estate dealer, she used to brew a vegetable and alcohol compound which was held in great esteem by her housewife neighbors. In the panic of 1873 Isaac Pinkham lost all his money, and the idea dawned to sell the compound. It sold, as such things do, slowly at first. But the Pinkhams were willing to mortgage their home to advertise (the first advertisement appeared in the Boston *Herald*, which still carries them), and the sales increased. And with them increased the family fortune and the size of the plant, which was once a kitchen, and the benefactions and scholarships and the distribution of pamphlets and novelties. And the compound became big business, and each generation of Pinkhams has had a hand in fostering the business and carrying it on to greater fame and success. Of the latter day Pinkhams, Aroline Pinkham Gove, aged seventy, daughter of Lydia, is the spry treasurer of the Lydia E. Pinkham Medicine Co., and her daughter, Lydia Pinkham Gove, is treasurer of the Northeastern Advertising Agency, which places most Pinkham advertisements. Of the original Lydia's grandsons, Arthur, aged fifty, is the company president; Daniel, aged thirty, Boy Scout enthusiast and sleight of hand performer, is in charge of the foreign department; and Charles, twenty-nine, probably the most popular of the three, is president of the Northeastern Advertising Agency. The great-granddaughter shown above is Priscilla Gove Talbot, twenty-two, whose father, a son of Aroline's, died five years ago with the satisfaction of knowing that he had doubled the company's business during the War by increasing instead of retrenching advertising.

The "repeater" element, that which makes you take a second dose (in the case of the Pinkham compound it is the 15 per cent alcohol), has much to do with the compound's success. But a necessary concomitant to such success is advertising. At this point Lydia Pinkham, along with certain other patented old ladies and gentlemen, meets her first rebuff. Advertising of patent medicines in America is limited:

1. Ethically, by the American Medical Association, whose *Journal* will not carry Lydia Pinkham advertising. In this, the *Journal* of the A.M.A. is followed by every self-respecting medical paper.

2. Legally, by the Pure Food and Drugs Act, under which false pretenders can be indicted. Whereas before the act the Pinkham label falsely claimed "the greatest remedy in the world" to be "a sure cure" for "all weaknesses," the label today reads: "Recommended As A Vegetable Tonic in Conditions for Which This Preparation Is Adapted." Which is absolutely meaningless though one catches the implications.

3. Haphazardly, by the American publisher, who is, or might be, a third barrier to patent medicine growth. This gentleman has made some few gestures in the direction of house-cleaning his advertising page, but so far as medicines are concerned his standards fall far below those of the A.M.A. If Lydia Pinkham's Compound is the nation's best-known remedy, the editors of cheap magazines, of small-town newspapers, and of the worst big-town newspapers have it on their souls.



Bourke-White

Pituitary glands of cows soaking in acetone, in a process discovered by Dr. Oliver Kamm, of Parke, Davis, for isolating pitressin and pitocin, two hormones formerly considered one. The little pituitary at the base of the brain is the grand marshal of glands. Its over-secretion makes giants.

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Pills can be sugar-coated, but the problem of getting nasty-tasting liquids past the palate is solved by gelatin globules that will not easily break. Thus little boys and girls surrender to castor oil, cod-liver oil, and other necessities; thus sheep, hogs, and dogs condescend to worm medicines.

years after the founder's death. In 1925, Ferdinand W. Nitardy, vice president in charge of Squibb manufacturing, read that copper in contact with ether would hasten its deterioration. Since there were copper containers and pipes in the Squibb manufacturing process, Mr. Nitardy experimented with hundreds of jars of ether, into which he dropped pieces of different metals. To his amazement and the confutation of the author he was reading, he found that all the ether deteriorated *except* that which had copper in it. Protected by copper, ether forms no peroxide.

Now, all Squibb ether cans are lined with copper—patented ether process, the license for which Squibb has offered to other manufacturers. No one has purchased a license. Since ether boils at ninety-five degrees Fahrenheit, it often does so on its way across the continent to the hospitals of the West. To prevent explosions, the Squibb cans are made to withstand thirty pounds pressure, instead of the usual five for foodstuffs, and to achieve this Squibb makes its own cans—tops to bottoms. The alcohol from which Squibb ether is refined is bought from the U. S. Industrial Alcohol Corp. and carefully measured by the government. Parke, Davis does not manufacture ether.

III—Adrenalin

At the beginning of the century there occurred an exciting race. John J. Abel of Johns Hopkins, Otto von Fürth of Strassburg, Germany, and three men who were working for Parke, Davis of Detroit were trying to isolate the principle of two little glands, each shaped like a cocked hat, embedded in fat above the kidneys and called suprarenal or adrenal glands. Though Dr. Abel first isolated a modified principle, it was a Japanese—Dr. Jokichi Takamine, Parke, Davis consultant—who first lifted against the light a test tube containing a precipitate composed of lovely octahedral crystals with the moving name of lævo-methylaminoethanolcatechol. This adrenal secretion was the first hormone (ductless gland secretion) ever isolated by man.

The adrenal secretion, acting on the sympathetic nervous system, is what stimulates the body to the reactions of fear and rage. Your adrenals are secreting when you storm at your secretary; also, when a child runs across the street in front of your automobile. Many things happen inside of you: blood leaves your skin and stomach, is concentrated at your heart, lungs, arms, legs; body starch—muscle food—pours from your liver to enrich this blood; your heart jumps to provide faster circulation, more oxygen; finally, in case you should be wounded by the emergency, your veins are constricted, and the coagulation time of your blood is shortened.

All these things can now be caused artificially by what Parke, Davis has christened "adrenalin"—a trade name as universally used as "kodak"—in place of the officially correct "epinephrine." The action of adrenalin is violent, lasts only about an hour, is used chiefly in emergencies. Most spectacular of its achievements is the Messianic one of resuscitation of the dead, somewhat exaggerated by newspapers, yet essentially a fact. If injected directly into the heart not more than ten minutes after the organ has stopped beating, it may, particularly in cases of collapse from drowning and general anæsthesia or in the newborn, call the body back to life.

The isolation of this principle is a story of long nights, closed laboratory doors, and the human mind confronted with a perfect dilemma. The adrenal principle is both a phenol and an amine. Acid will throw a phenol out of solution—good; but acid is exactly what keeps an amine in solution. On the other hand, where an alkaline precipitates amine, it dissolves phenol. Since the chemist must work with either an acid or an alkaline, impalement on one horn or the other seemed at first certain. Dr. Takamine, able matador, had the simple idea of using a reagent (ammonia water) of such mild alkalinity that, while the amine was precipitated, the phenol was not dissolved.

The epinephrine molecule has twenty-six atoms, its formula is $C9H13O3N$, it can be made synthetically, but Parke, Davis uses the actual glands of 12,000 cattle to make one pound of adrenalin crystals.

IV—Insulin

Almost as remote as the Greek Islands of the Blessed are the "islands" in the pancreas gland, a digestive gland located behind the stomach. For 238 years men sought the secret of the islands—insulin. The voyage actually started in 1683 when Conrad von Brunner removed the pancreas from a dog and observed symptoms which we now know to be those of diabetes. About 1870 the islands, like small globules of oil, were first seen by Langerhans, for whom they are named. Many explored them and even obtained impure insulin secretions from them, but they were never fully claimed until 1921, when Dr. F. G. Banting and his associates of the University of Toronto obtained the pure insulin which they supply.

Man lives in the balance of many metaphorical scales, but of them all none is more precarious and none less metaphorical than his use of sugar. The secretions from the islands of Langerhans enable him to oxidize eaten sugar, which is stored up in the liver and muscles. In the illness known as *diabetes mellitus* the islands do not secrete, wherefore sufficient sugar is not oxidized, remains in the blood, and is wasted through the urine. But the diabetic patient lives between a Scylla of sugar and a Charybdis of insulin. If he does not take enough insulin, he will die of too much sugar; if he does not eat enough sugar, the insulin which he is injecting into himself twice a day will rapidly burn up whatever sugar is in his system. This latter situation is called hypoglycemia and is as devastating as the former, causing uneasiness, convulsions, helplessness, coma, and sometimes death. Therefore in severe cases it is not only necessary for the diabetic to take an injection of insulin before meals, but he must also calculate very exactly the amount of sugar he is going to eat.

Unlike most great discoveries, this one of Banting's was accepted by the medical profession almost from the day when its announcement threw the scientific world into sedate confusion. As its discoverers have consistently asserted, it is not a cure for diabetes, but a substitute for the insulin that should be secreted from the pancreas. However, by resting the islands of Langerhans, it may assist them to recover their normal health and powers of secretion. Its use has increased the life span of the average diabetic about 100 per cent.

At one time there was a scare: it was said that there was not enough available pancreas in the world to supply the thousands of diabetics. Since then Banting and McLeod (his associate) have shown that there is enough in sight for all who need insulin, at a cost of from thirty cents to seventy-five cents a day. John D. Rockefeller Jr. has set aside a fund of $150,000, administered by Dr. Simon Flexner, to supply ward patients with insulin.

Dr. Banting and his associates gave the insulin patent to the University of Toronto, in whose laboratory the discovery was made. Sole license for its manufacture was at first given to Eli Lilly and Co. of Indianapolis; since then licenses have gone also to H. K. Mulford & Co. of Philadelphia, Frederick Stearns & Co. of Detroit, and to E. R. Squibb & Sons. Under the direction of Dr. J. A. Morrell (Squibb-discoverer of Amniotin), Insulin-Squibb is manufactured at New Brunswick. About 1,000 pounds of frozen pancreas glands from cattle (belly sweetbread) are run through a meat-chopper, collected into alcohol containing concentrated hydrochloric acid, stirred. The alcohol is removed in a vacuum still, the fat filtered out, and the residue, after five precipitations, appears as a mere 0.75 ounces of clear white insulin powder. This pigmy amount, however, is enough to enable the average diabetic to burn 2,200 pounds of sugar.

EDWARD ROBINSON SQUIBB
Founder of E. R. Squibb & Sons. In 1858 an ether explosion burned off the lower part of his eyelids. He could never completely close his eyes, slept with court-plaster over them.

The medicine business

The modern American medicine man is equipped with more forms of magic than were ever before devised. He has serums for scarlet fever, diphtheria, erysipelas; vaccines for smallpox; pollen extracts for a dozen kinds of hay fever; extracts of glands; anæsthetics; vitamine products to compensate hasty diets; simples and chemicals of every description. Should we inquire where he gets these wonders, we would find that of all the firms who manufacture for him, Squibb, founded in 1858, and Parke, Davis, founded in 1866, stand out for their size and their pioneering services.

The materials that these firms manufacture are so precious to life that in Utopia they would be distributed through outlets as dignified as the modern jewelry store—but not in the U. S. Ethically unable to sell directly to the medical profession (except in the case of hospitals and laboratories) Parke, Davis and Squibb market their priceless fluids in a welter of cash register bells, toys, soda water, nostrums, and cut-rate displays. To a dark corner in the rear of the drug store is shunted the pharmacist, very possibly the only man in the place with a university degree; but even here the magic of the modern medicine man is hidden away, behind a mass of unholy patented hair remedies, cough syrups, tonics, elixirs; the shiny faces of Lydia Pinkham and Father John; the blatant claims of Swamproot (for the kidneys), Masculine, and Make-a-Man tablets—anathemas to scientists and to Parke, Davis and Squibb.

Although there are many drug stores of a higher class than the above, which either specialize in prescription work or take great pride in their prescription departments, the troubles of the legitimate pharmaceutical industry are not confined to its outlets. It is at the mercy of America's 150,000 doctors, about one-third of whom are members of the American Medical Association. Thus it happens that the sixteen members of the Council on Pharmacy and Chemistry of the A.M.A. have extraordinary industrial power, for with them lies the decision as to whether any product shall be listed in the A.M.A.'s *New and Non-Official Remedies*—a Who's Who of drug manufacturers and a What's What of drugs. There are federal and state drug laws aplenty, laying down, through the U. S. Pharmacopoeia and the National Formulary, certain minimum standards to which any drug on the market must conform. Squibb and Parke, Davis accept these laws as a matter of course; but their friendly coöperation with the Council located in Chicago is a fundamental business policy, and the goodwill of the Council is almost as important to them as the buying power of the public.

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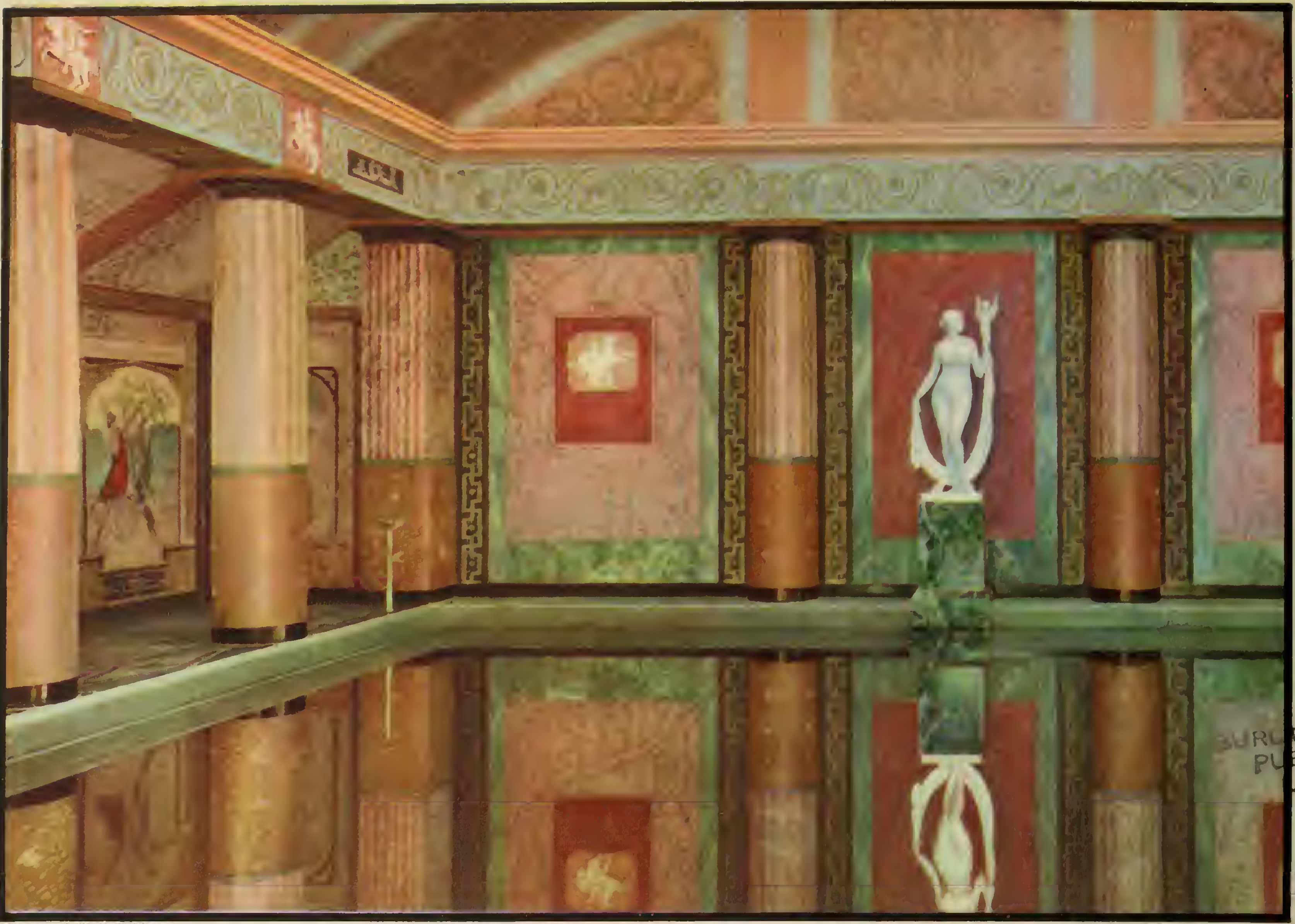
The sixteen members of the Council are paid no salaries, and their judgments are theoretically impartial. They appoint special referees for each product submitted to them, and the firm whose product is to be examined is not told the name of the referee. Their

[*Continued on page 110*]



BURL NG
PU BLI
IB.

Courtesy of W. & J. Sloane

THE PLEASURES OF THIS POMPEIAN PLUNGE ARE OFFERED TO HIS WINTERTIME GUESTS BY THE GENTLEMAN PICTURED BELOW

Keystone

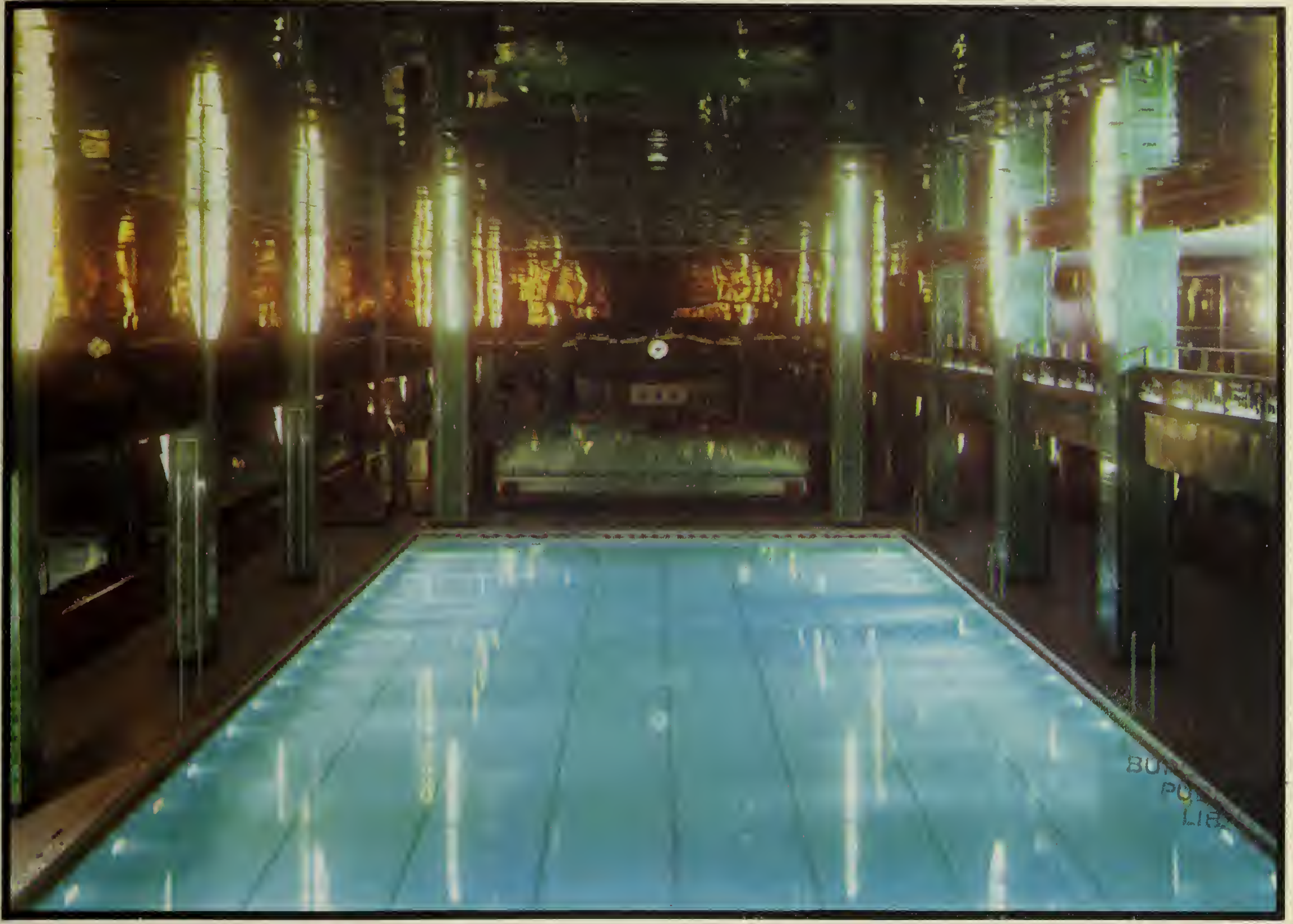
COLONEL HENRY HUDDLESTON ROGERS

Enchanted Tiles

Pogany's Brooklyn Caracalla and several private arenas for the cleanest of all sports.

WE MIGHT begin by saying that bathing places are indicative of states of civilization. But inasmuch as this is true of practically everything under the sun, there would be little use in the remark. And the corollaries are obvious: a primitive man bathes in some humble, natural brim; a civilized man amidst luxurious artifice (at many a "beach" club the chief attraction is a tiled pool). Therefore, in annotating the surrounding pictures of some of the country's notable swimming pools, we will relegate generalities to an imaginary footnote.

Beginning specifically, there is the private Pompeian bath which Colonel Henry Huddleston Rogers, of Standard Oil and railway repute, has caused to be built on his winter estate, The Port of Missing Men, in Southampton, Long Island. The modest pool (33′ 6″ x 45′ 6″) is approached from the Rogers' mansion through a 150-foot passage which is, in effect, a pathway into the past. For John Russell Pope, the architect, has provided the spacious chambers surrounding the pool with meticulous Doric contours, and LeRoy Daniel MacMorris has painted the walls with flushed Pompeian huntsmen and a graceful tangle of vines. The capricious, warm Pompeian decoration was chosen because it was thought that a severe Grecian treatment, in accordance with the architecture, would seem somewhat chilly in a wintertime rendez-



THE POOL OF BROOKLYN'S ST. GEORGE HOTEL, WHERE ONE DOLLAR BUYS ADMISSION TO A 168,000 GALLON LAGOON

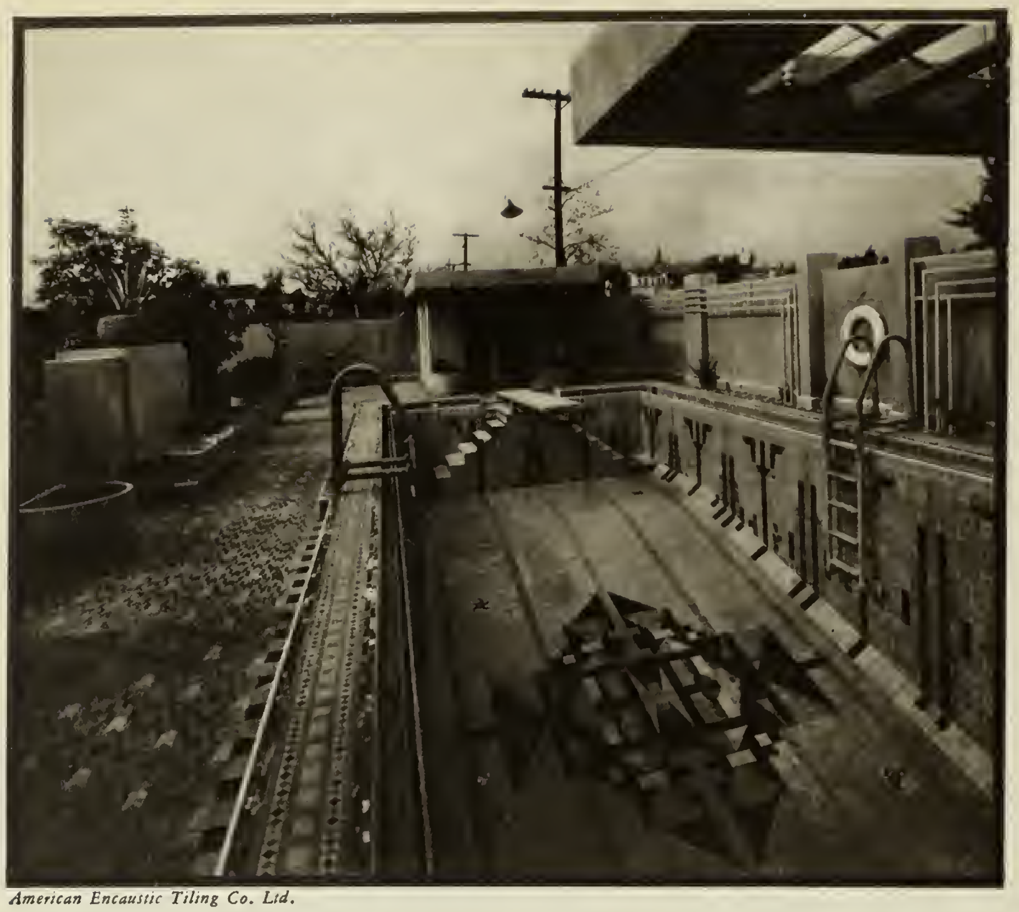
LINGAME

WILLY POGANY, WHO DECORATED

vous. Despite its relative informality, it is difficult to imagine anyone entering the Rogers pool in a bathing suit. It is a scene which demands at least a Classic tunic, if not Classic nudity. Colonel Rogers' Greek bas-reliefs adorn the walls, and over the plunge presides a replica of Edward Field Sanford Jr.'s shapely *Inspiration*, the original of which stands in the California State Library. It was this sizable, undraped figure which, when exhibited at the National Academy in New York, stirred two gentlemen of the Harvard Law School to correspondence with the New York Society for the Suppression of Vice. The vigilant John S. Sumner, leader of that earnest fraternity, denied that the statue disturbed him in any particular, and the sculptor remarked: "So many of my friends have called my work cold that this time I decided to do something warm. If some gentlemen think it 'hot,' they are reading into the statue more warmth than I put into it."

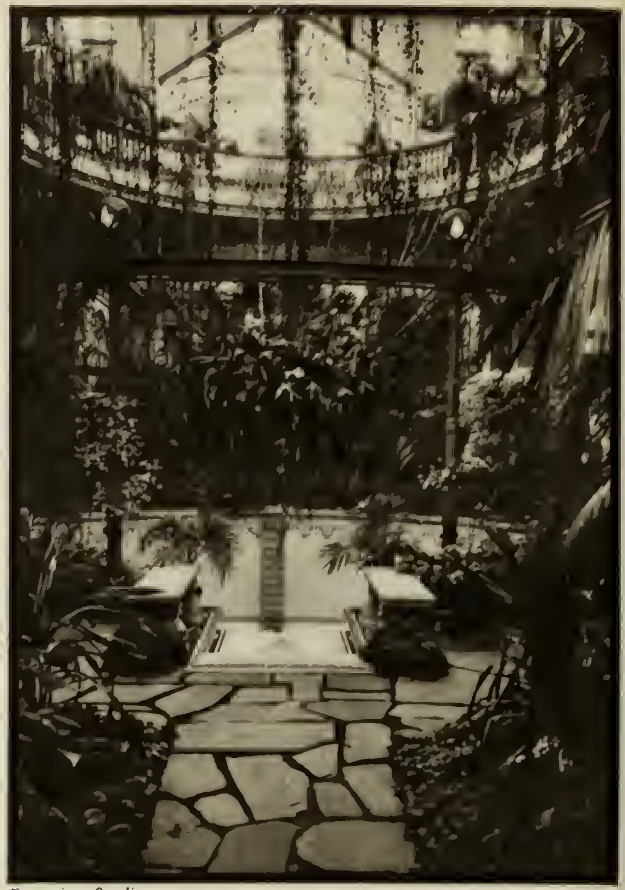
As modern as the Rogers pool is archæological, as accessible as the Rogers pool is restricted, is the vast natatorium (40′ x 120′) of the St. George Hotel in Brooklyn. It has given Brooklynites something to boast about

MARTIN SAMUELS, WHO CONCEIVED



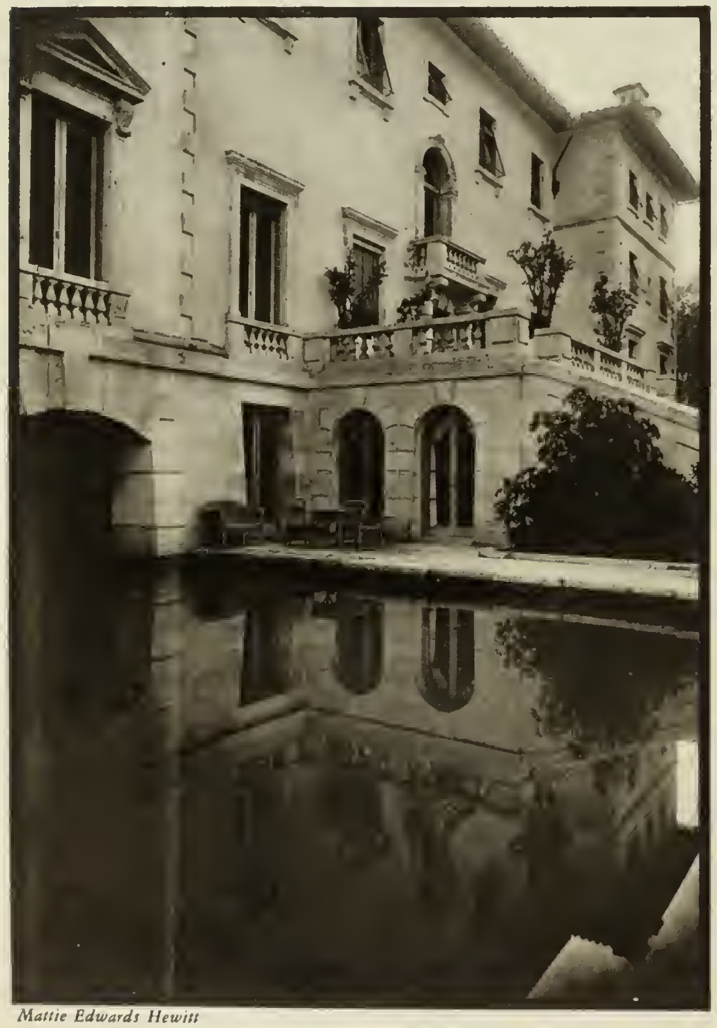
American Encaustic Tiling Co. Ltd.

MR. MACK, OF MORAN & MACK, OWNS THIS POLYCHROME DAZZLER



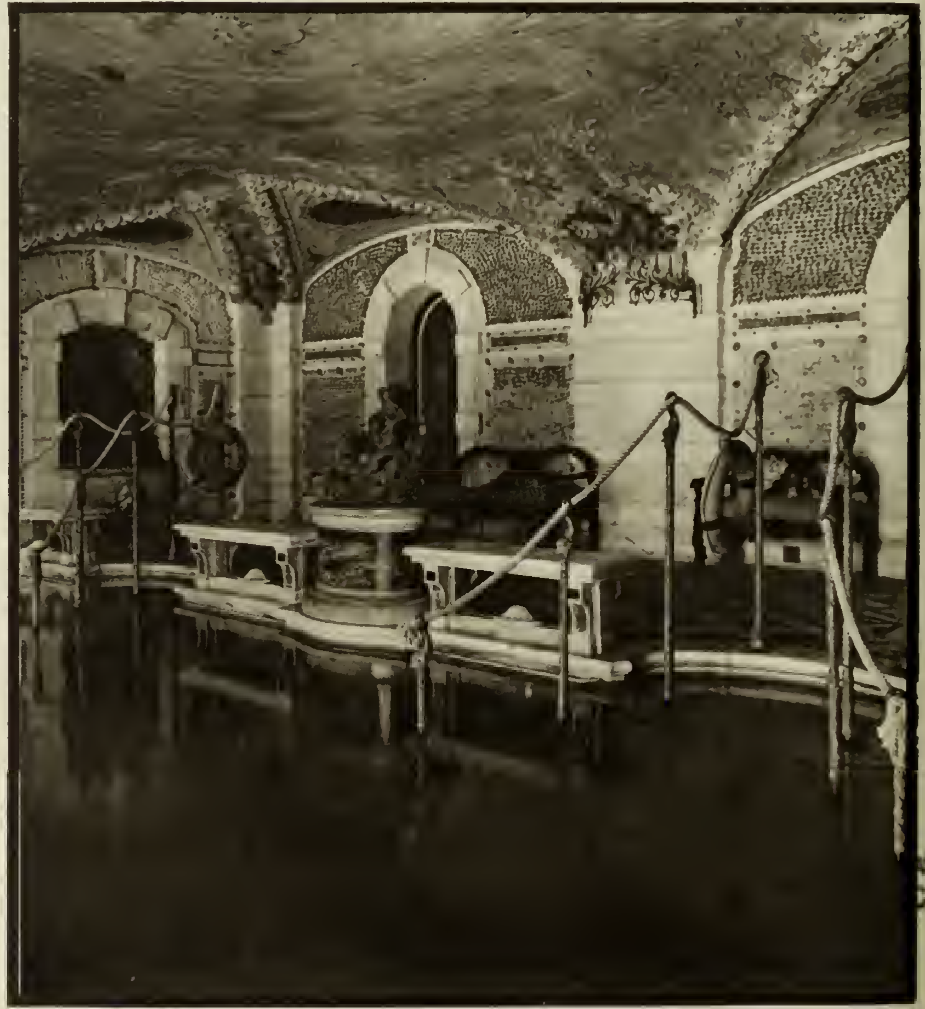
Browning Studios

ARTHUR LOEW'S HEREDITARY JUNGLE



Mattie Edwards Hewitt

FROM THIS OUTER POOL YOU CAN SWIM . . .



Mattie Edwards Hewitt

. . . INTO THIS INNER GROTTO ON THE DEERING ESTATE IN MIAMI after years of submission to Manhattan in the entertainment field. The St. George management challenges the public to discover anything like this $1,264,000 plant anywhere else in the country or, indeed, in history. As in the Rogers pool, there is submarine illumination—with 87,000 candlepower, delivered under water, the St. George tank is a glimmering, emerald lagoon. Around it Willy Pogany has raised burnished, rectilinear surfaces consisting largely of golden mirrors. The total mirror area is the greatest in the world; the entire water spectacle is reflected on the lofty ceiling.

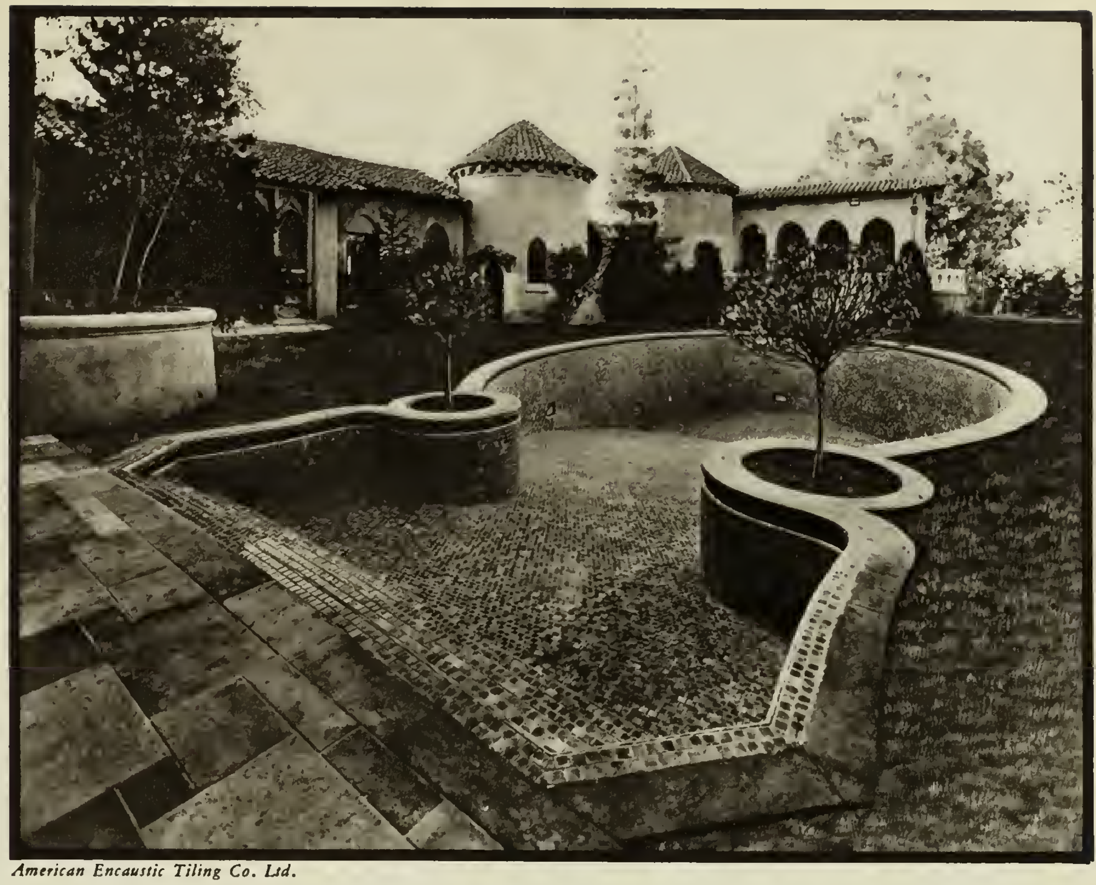
Artesian wells 207 feet below the hotel furnish water half as salt as the sea at a temperature of forty-one degrees. The pumps deposit it, triple-filtered and quadruple-sterilized by ultra-violet rays, at a rate of 700 gallons a minute. Thus the water is completely changed every four hours. One dollar buys admission and rents a bathing suit.

The pool is part of an expansion scheme, the pet project of Martin Samuels, who rose from office boy to vice president at forty-five of Bing & Bing, Inc., New York real estate operators. It has served to draw attention to the fact that the St. George is now the second largest hotel in the country. With 2,632 rooms, it yields only to the Stevens Hotel in Chicago (3,000 rooms) and is 129 rooms up on its Manhattan rival, the New Yorker.

The enormous conservatories of Pembroke, estate of the late Marcus Loew at Glen Cove, Long Island, contain a circular pool surrounded by a synthetic jungle complete with pendulous vines and dank, odorous flora. There, even in the midst of northern winters, dangle coconuts and bananas. This was the conception of the original owner, the late Captain Joseph Raphael DeLamar, sailor, soldier of fortune, copper miner, capitalist, and organist who died in 1918, leaving $20,000,000 and innumerable Wall Street legends. It was his fancy to have a tiny grill work pavilion in the center of the pool, reached by a Lilliputian bridge. This has since been removed. But the vegetable matter is still cultivated by Marcus Loew's son Arthur, vice president and director of Loew's, Inc. and its Metro-Goldwyn subsidiaries, who inherited 15 per cent of his father's fortune, estimated at $50,000,000 and appraised at less than $900,000. Mr. Loew's wife, the daughter of Adolph Zukor, does not share Pembroke with her husband, from whom she has been estranged for more than a year.

Charles E. Mack, the originator, owner, chief money-maker, and torpid half of the the blackface act of Moran & Mack, has a pool at his home in Beverly Hills which exemplifies the exotic California tradition. Its glossy tiles are green and orange and black in designs suggestive of Navajo geometrics. Mr. Mack assures timid guests that, although the diving board is at the shallow end, there is no danger of their bumping their heads. The pool slopes away quickly, and all diving is in the direction of the deep end. This practice has proved so satisfactory for a small pool

[*Continued on page 126*]



American Encaustic Tiling Co. Ltd.

EARLE C. ANTHONY PREFERS AN UNUSUAL SHAPE IN TURQUOISE

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Mattie Edwards Hewitt

RALPH PULITZER'S CLASSICISM

Bourke-White

DR. CHARLES BRIGGS' ANGLICISM

Underwood & Underwood

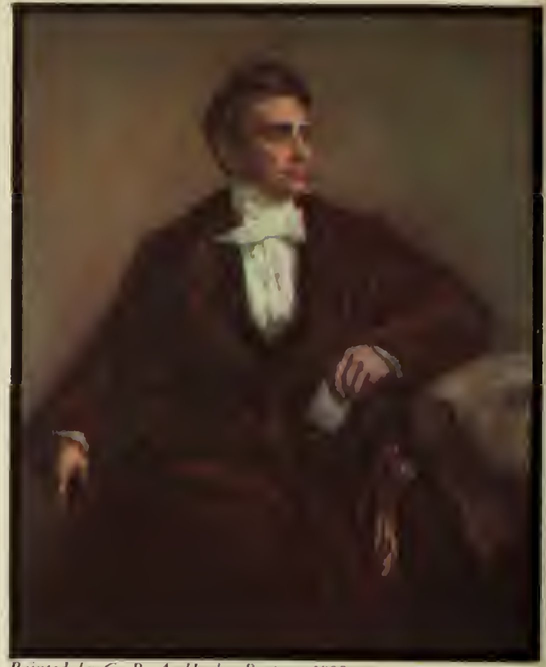
RUBBER

This story is told in three parts:

I— Outline of an individual (for the industry has happened in one life-time).

II— Rubber itself (to explain its presence on earth).

III— Four manufacturing companies (they are now two-thirds of the business).



Painted by G. P. A. Healy, Boston, 1808

Charles Goodyear (above) was a hardware merchant, not very successful, whose curiosity was aroused by the fact that rubber oozed in the summer and cracked in the winter. In 1837 he very nearly died from the fumes of nitric acid and rubber. Sulphur, he was certain, was the best bet, although it was quite by accident that he came upon the proper way to treat rubber with sulphur. When explaining something to a friend in his laboratory (which was his kitchen), gesticulating with his hand full of rubber and sulphur, he dropped the mixture on the kitchen stove. The result was a material still resilient, but not susceptible to the January weather outside, nor to the hot atmosphere of the kitchen. He called the process vulcanization after the god. He spent the rest of his life in expensive lawsuits which drove him to prison for debt. Daniel Webster defended him in a successful patent case. In 1855 he was in a Paris jail for debt. His French company had collapsed. In debt $191,000, he died in New York in 1860. His name is used by the Goodyear Tire & Rubber Company and hundreds of stores selling galoshes, raincoats, and rubbers in the U. S.

Firestone's President

Is the same Harvey Firestone who happened to have the only rubber-tired buggy in Detroit.

ONCE upon a time a man sat down and wrote about a company. He told of the foundation and early years of the company and of its steady growth. Then he told of war inflation and of post-War prosperity and pictured in sharpest detail the many absurdities into which the company was betrayed by the boom time of 1918-20. He was amused by a system of inter-office correspondence which became so complicated that the many vice presidents and their many assistants could not keep up with their intra-mural mail, so that a special inter-office telegram on bright red paper was devised for really important messages. He laughed at a great super house-organ, sold to dealers for five cents, costing the company from ten cents to twenty cents to publish, reaching a circulation of a million a year, yet worth not a nickel in advertising performance. And, finally, he pictured the president of this company as a man who had built in Ohio a house much larger than he needed, had then built another house in Florida, and who—on the eve of the 1921 deflation which almost toppled his company into bankruptcy—was vacationing in Europe, having succumbed to the prevailing theory that it was a reflection upon an executive's standing as such to be caught within a thousand miles of his business.

This company was the Firestone Tire & Rubber Co. of Akron. And the man who was writing about it was Harvey S. Firestone.

It is not a usual thing for a man so to satirize his business and himself. And it was particularly difficult for a man in the rubber industry to regard himself with humor and perspective. The rubber industry is today chiefly an auto tire industry. It has been so, however, for less than twenty-five years, and into those twenty-five years it has crowded a fantastic history of expansion and a remarkable number of mistakes. Mr. Firestone has gathered a considerable portion of the profits (the industry *as a whole* having made little or nothing), and he has, he admits, made some of the errors. He remains not only an enormous success, but also the only man living who has run a tire business from the dawn of the industry to its present day.

• • •

After an unfortunate experience selling patent medicines in Ohio, the state of his nativity, Harvey Firestone found himself, in 1895, a buggy salesman in Detroit. He knew horses and had a good pair. Also, his buggy had rubber tires. And they were the only rubber tires in the entire city of Detroit. This was calculated to make him popular with the *fin de siècle* girls, one of whom became his wife. But it was not until after his marriage that it suddenly occurred to Mr. Firestone that the rubber tires were something more than a slight social asset; that they were, in fact, his future.

With $1,000 savings, Mr. Firestone and a partner bought a run-down factory on Wabash Avenue at Harrison Street, Chicago. There was practically no machinery. The partners bought their tires in strips like garden hose (only solid); they cut the strips to fit buggy wheels and cemented the ends together. The Firestones' personal grocery bills were $20 a month, rent $25. Mr. Firestone now reflects on the simple life but, says he: "There is no going back—except as a broken man." The buggy tire business grew. Everything was simple except the finances, which continually worried him. He knew nothing about borrowing money from a bank. (How many tens of millions he has since borrowed and repaid and borrowed and repaid again.) One bank was nasty to him. But at another bank there was a patient, sympathizing young man. It happened to be Frank O. Wetmore, now well-known chairman of one of Chicago's great financial institutions, the First National Bank.

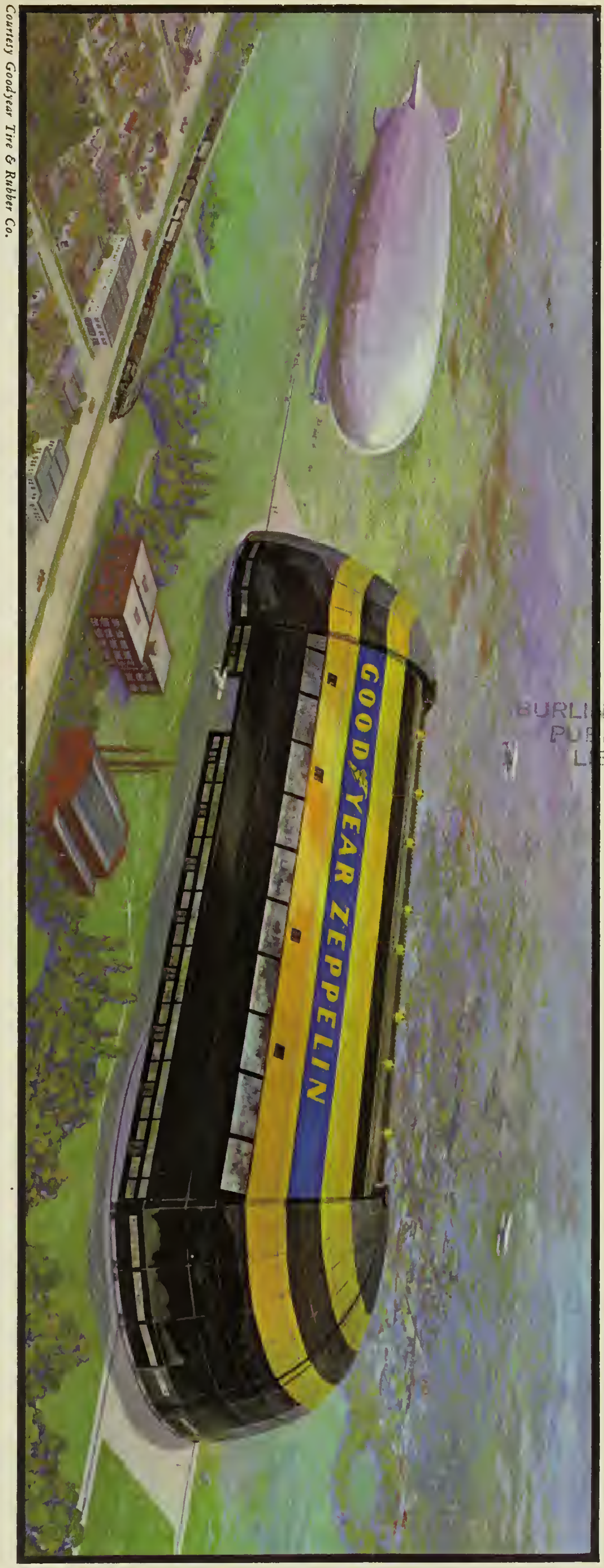
That was the era of the goblin-headed trust. One of these, called the Consolidated Company, made a pass at monopolizing the rubber business (without the slightest idea that there was such a thing as an automobile). In the course of its gobbling, it paid a fancy price for Firestone's still-little business, and Firestone got out with a fortune. To be exact, with $45,000.

"I had the capital, but I did not have an idea." People told him he was crazy to want an idea. He could retire at thirty-two. The big idea of those days was to get out of business as soon as you had made or stolen enough to get out with. But a Mr. Sweinhart of Akron did have another idea. It concerned a better way to fasten tires (which were actually becoming popular) to buggies. To exploit the Sweinhart Clincher, there was formed on August 3, 1900, the Firestone Tire & Rubber Co. One of the early problems concerned the advisability of employing at $5.00 a week a stenographer, in addition to the one the company already had. The new employee, Miss V. M. Greer, became Firestone cashier.

Today, Mr. Firestone's general offices in Akron bear an unmistakable resemblance to Mr. Ford's. Other evidences of a famous friendship are the Firestone family's fleet of Lincolns and Mr. Firestone's tri-motored Ford plane. The connection began in 1905 when Mr. Firestone personally sold Mr. Ford 2,000 sets of tires for $55 a set against competitors' prices of $70. Mr. Firestone now doubts whether the order would have been given or taken if either "had really known anything" about pneumatic tires. In the previous year Mr. Firestone had taken his first auto ride, doing sixty miles from Akron to his old homestead in eight hours and innumerable punctures. However, when Mr. Firestone sold Mr. Ford the tires, Mr. Ford sold Mr. Firestone the proposition that the motor car was a means of transportation. From then on the business history of these two friends is about as different as possible, except that both achieved enormous success. And the principal difference is finance. It was hardly ever necessary for Mr. Ford to borrow money or sell stocks, an occupation which Mr. Firestone rarely escaped.

Take, for example, the year 1920. In the previous year the Firestone company had made $9,000,000 profit. Its assets were $70,000,000. It had borrowed $35,000,000 from the banks, but that was supposed to be shrewd because it was thought that whoever could get the most rubber and cotton fabric (at any price) would get the most tire business. Demand was ceaseless. In May, Mr. Firestone went to Europe, having rented a house in England. In July he began to get cables. He paid little attention to them. He got more. He sailed home. At lunch in New York his managers told him the worst. They now owed the banks $43,000,000 and could borrow no more. Sales had stopped. No money was coming in. They arrived in Akron on Friday. Mr. Firestone went out to his old homestead to think. On Monday he began to act. "The factory," said he, "was piled to the roof with unsold tires. Therefore we reduced our prices 25 per cent . . . It was a fire sale for the first time in our history. We thrust aside all our dignity. We plastered the country . . . In September and October we sold $18,000,000 worth of tires. That carried us out of the woods." But that was not all. And here is where the genuine captivating Firestone touch comes in. Mr. Firestone began not a fire sale, but a wholesale firing of bunk. He became again his own sales manager. Mr. Firestone found that organization, with its consequent delegation of authority, was necessary to big business, but the less of it the better. He thinks of 1920, when he again took personal command, as the real birthday of his gigantic enterprise.

The $45,000 "fortune" which Harvey Firestone sank so unnecessarily into the tire business has had millions of new capital added to it, and has become two tremendous plants in Akron, capable of making 16,500,000 tires a year; a plant at Los Angeles costing $5,000,000 and capable of 4,500,000 tires; textile plants in New England capable of producing 40,000,000 pounds of tire fabric; beautiful One-Stop Master Service Stations scattered about the country; a large staff of rubber buyers in Singapore (housed in Firestone Park of Singapore); thousands of employees of whom many live in Firestone Park of Akron; a million acres in Liberia, of



The Goodyear "Dock" near Akron, one of the most spectacular spots in the U. S.

Courtesy Goodyear Tire & Rubber Co.

BURLI GAME
PU LIC
L B.

Ewing Galloway

To earn his keep, plus the $60 paid for his services for three years, the native must tap six hours a day.

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which only 55,000 have been planted with rubber trees; the sum total doing an annual business of $150,000,000.

• • •

Such sheer mass is characteristic of all modern business. We are continually confronted with the spectacle of Industrial Pelion piled on cosmic Ossa. But we shall misunderstand the tire business if we sit high in a Wall Street tower and inspect merely the gigantic statistics. For the true boundaries of the tire business have been the lives of individual men, and principally of a few men in Akron who have seen their city's name and their own names lengthen across the world. Far from being wizards of finance playing deftly upon the strings of economics or manipulation, they were continually arguing with their banks in Cleveland or New York. Far from being engineering geniuses, they did not even install the simplest conveyor

[*Continued on page 142*]

Rubber: A Gift to America

Resulting from the most dramatic change in the agronomy of the globe. Its cost of production.

THE relation between Nature and Industry is too little understood. There is a notion that Nature suffers the atrocities of Industry's mercenaries and retreats to a point of extermination. We think of the buffalo. But we forget the cow.

Actually, if Nature is the everlasting she, then Industry is the most virile husband she has ever known. It has multiplied the udder of the cow. But of its gigantic and profligate courtship, the most curious result is Rubber.

During the last ten years, five hundred million tires (500,000,000) have been made for the American people. They have been made *without profit.* The principal reason is that tire manufacturers have habitually gambled that Nature could not keep up with Industry, and they have habitually been wrong. If we could say that for the next ten years a pound of rubber would never cost more than twenty-five cents, then we could go a long way toward saying that hereafter the tires made for the American people will be made *with profit.* At any rate, we can demonstrate that the future of rubber will differ radically from its past.

The rubber tree which gave the latex which gave the rubber which gave the tire which alone made it possible for the first Ford car to proceed at twenty miles an hour without falling to pieces is, in all probability, still standing. No one knows how long a rubber tree will live, but certainly fifty years. The Ford tree is standing deep in a Brazilian jungle off the River Amazon. It is full of latex, for which it has no use. Latex is not a sap. Though it looks almost exactly like milk, it performs no known biological function except to hasten the healing of a wound in the bark. But in twenty years no harm has come to the Ford tree's bark. A wildcat may have scratched it. But knives have not touched it. For Brazil lost the rubber business of the world at the precise moment when rubber took rank with the few all-important commodities of the Modern World.

Among other reasons, this was due to Brazilian complacency and to a wandering gentleman named Wickham who died two years ago at a ripe old age and who closely resembled Hollywood's idea of an Anglo-Indian turned agile botanist. He noted that rubber trees have seeds. It is almost impossible to overlook the fact that rubber trees have seeds. The pods pop with a loud report, catapulting the seeds to a considerable distance. Sir Henry—for he was eventually knighted by King George and given £1,000 and an annuity by British rubber planters and American manufacturers—wrote a book about this popping and dispatched it to a learned man, Sir Joseph Hooker, director of the Royal Botanical Gardens at Kew. It was not the lilacs that were troubling Sir Joseph, but the state of the coffee tree in India and Ceylon, where a bug had literally demolished the trees from which the world derived nearly all its coffee. That was about 1875. Free from bugs, Brazil was starting to grow coffee. If Brazil could raise coffee as well as rubber, why should not Ceylon raise rubber, now that its coffee plantations were ruined? There was no reason except that to transport rubber seeds across the ocean without spoiling was almost impossible. Besides which, it was against the law. But at Sir Joseph's command, Sir Henry outwitted both Nature and the Brazilian Government and got a shipment of seedlings to Kew. A few months later, on August 12, 1876, several thousand seedlings were shipped in care of a gardener from Kew to Ceylon. Thus began the most colossal transfer in the agronomy of the globe, for today most coffee comes from Brazil and, broadly speaking, all rubber from the Asian tropics.

The impregnation of the Asian tropics with the seeds of rubber had nothing to do with ultimate destiny. It was all-unconscious prophecy. The ultimate destiny of rubber was Detroit and Akron, mean towns which had never been heard of by the men and governments who fifty years ago hoped that rubber might recompense Ceylon for its bug-ruined coffee. Nevertheless the significance of that triple play (Amazon-to-Kew-to-Ceylon) lies in the fact that it established rubber in the only place in the world where enough rubber could be produced to fill the needs of the Automotive Age. And that fact is today the cardinal fact about rubber.

To see why this is so, it is necessary to look at the geography of the Middle East. Anyone but a rubber man would call it the Far East, but a rubberman knows his East, and since Hongkong is 750 miles easter than Singapore, he puts Singapore in the Middle East. The Middle East includes the Malay Peninsula (and Burma on the north), Java, Sumatra, Borneo, Indo-China, and (1,500 miles nearer England) Ceylon. This area is in the one and only rubber isothermal zone. But its uniqueness really arises from its combination of climate and population. To the production of rubber, vast quantities of labor are even more essential than climate, for the climate might conceivably be manufactured. Not only is this labor abundant in the Middle

lliam Thompson

Rubber, once a wild, is now a domesticated substance. While coffee migrated from east to west and established itself in Brazil, rubber moved from west to east to the one place where there is labor of the necessary kind and quantity, in reach of the teeming populace of India, China, and Java. These pictures show: (left) the jungles which must be cleared before rubber trees are planted in groves; (below) pumping liquid latex from ship to tank-car in New York. An increasing amount of rubber is handled in this way.

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ast, but it is supplemented by the world's
eatest labor reservoirs—400,000,000 people
China, 320,000,000 in India on top of
,000,000 in Java alone, all workable for
actically nothing a day.

Best available estimates indicate there are
me 7,000,000 acres of rubber trees (acreage
eater than the total area of New Jersey and
elaware). There may be as many as
0,000 owners of these 7,000,000 acres, for
me of the native "plantations" are less than
acre in size. Roughly speaking, about
lf the acreage is owned by natives and half
foreigners. And roughly speaking, the
anted area is about 50 per cent in British
rritory, 40 per cent in Dutch. The acreage:

British Malaya	2,700,000
British Borneo	300,000
British India and Burma	165,000
British Ceylon	535,000
	3,700,000
Dutch East Indies	2,900,000
Indo-China (French)	250,000
Siam	150,000
	7,000,000

It costs something less than $500 to clear
it an acre of jungle, plant it with trees, keep
em weeded for five or six years until they
e ready to tap. Obviously so great an ex-
nse and so long a wait was never under-
ken without prospects of large profits. In
10 there was practically no plantation rub-
r in the world. The price of rubber, most of
coming from the wilds of the Amazon, was
arly $3.00 a pound. The automobile had
rived, and the demand seemed insatiable
r decades to come. Even if the price should
down to $1.00 a pound, the prospect
emed golden. The yield from an acre may
about 500 pounds. If 500 pounds brought
500, you could deduct $60 for cost of farm-
g and still have an annual profit of $440 on
investment of $500. It was Bonanza, and
ritish capital, always courageous, was
uick to flow in that direction. So, as fast and

Rubber in one of the forms in which Akron sees it.

SINGAPO
SUM

furiously as tropic life permits, the British planted up and down the Malay states. They planted so much, and Nature responded so handsomely despite disease and windstorm (rubber trees have shallow roots) that in 1920 there was enough rubber for all the world's needs, even though those needs had doubled and redoubled in the interim.

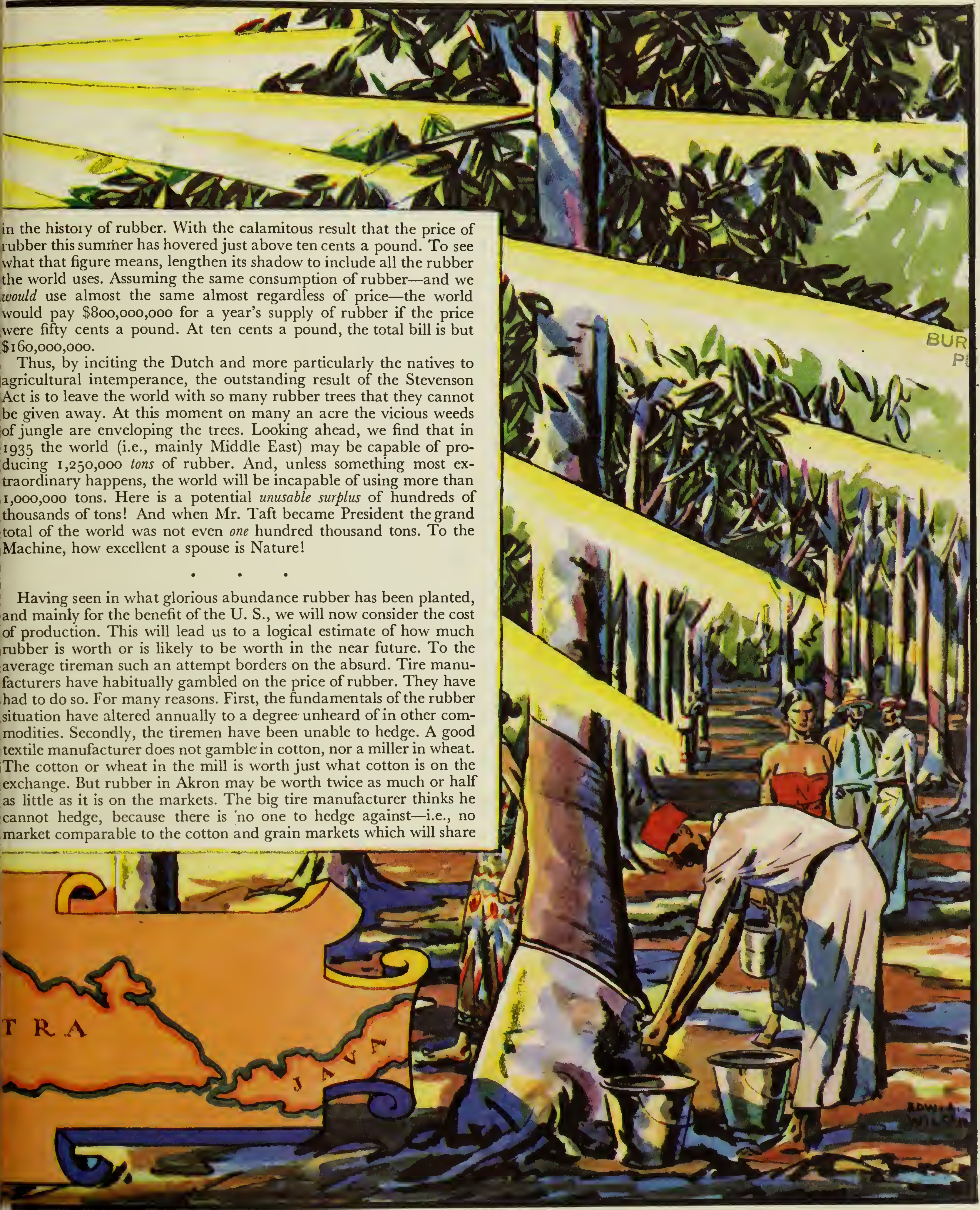
The price of rubber which had been planted to yield $1.00 a pound was fifty-five cents a pound on January 1, 1920. Even that price yielded a handsome profit. But on December 31 of that same year the price of rubber was sixteen cents. That was ruin. The British had to do something. They had a $1,000,000,000 of capital to protect. If the price stayed down at these pinch-penny levels, hundreds of millions of dollars would revert to jungle. So, in 1922 the British Government took command and, by the famed Stevenson Act, restricted the amount of rubber that could be exported from British possessions. The price of rubber went up.

Exactly why the Stevenson Act failed to work salvation for Malayan planters is explained in the *Appendix* (page 144). What concerns us here is the presence of 7,000,000 acres of rubber trees where there was scarcely a single tree when most of us were born. The failure of the Stevenson Act and the fact there are seven instead of only five or six million acres in the Middle East are both due primarily to the Dutch and the natives. In the Middle East the British have the Dutch for neighbors across channels of water just as they do in Europe. Ever since 1910 there had been considerable planting in those islands, great, glamorous Dutch islands, Java, and Sumatra. In fact it is in Dutch territory that the greatest American development is found. (U. S. Rubber, leader in history and size, has 104,000 acres in Dutch territory; Goodyear has 50,000. U. S. also has 30,000 acres in British Malaya and Goodyear 2,500 in the Philippines.) But until 1922 the rubber in Malaya was twice as much as in the Dutch East Indies. Now, however, there are more rubber trees in the Dutch Indies than in Malaya (the British retain their first position only because they have Ceylon, Burma, and Borneo besides Malaya). What happened, of course, was that instead of coöperating with the British to keep the price of rubber up, the Dutch saw chances of huge profits and proceeded to plant at a rate hitherto unparalleled in the history of rubber. With the calamitous result that the price of rubber this summer has hovered just above ten cents a pound. To see what that figure means, lengthen its shadow to include all the rubber the world uses. Assuming the same consumption of rubber—and we *would* use almost the same almost regardless of price—the world would pay $800,000,000 for a year's supply of rubber if the price were fifty cents a pound. At ten cents a pound, the total bill is but $160,000,000.

Thus, by inciting the Dutch and more particularly the natives to agricultural intemperance, the outstanding result of the Stevenson Act is to leave the world with so many rubber trees that they cannot be given away. At this moment on many an acre the vicious weeds of jungle are enveloping the trees. Looking ahead, we find that in 1935 the world (i.e., mainly Middle East) may be capable of producing 1,250,000 *tons* of rubber. And, unless something most extraordinary happens, the world will be incapable of using more than 1,000,000 tons. Here is a potential *unusable surplus* of hundreds of thousands of tons! And when Mr. Taft became President the grand total of the world was not even *one* hundred thousand tons. To the Machine, how excellent a spouse is Nature!

• • •

Having seen in what glorious abundance rubber has been planted, and mainly for the benefit of the U. S., we will now consider the cost of production. This will lead us to a logical estimate of how much rubber is worth or is likely to be worth in the near future. To the average tireman such an attempt borders on the absurd. Tire manufacturers have habitually gambled on the price of rubber. They have had to do so. For many reasons. First, the fundamentals of the rubber situation have altered annually to a degree unheard of in other commodities. Secondly, the tiremen have been unable to hedge. A good textile manufacturer does not gamble in cotton, nor a miller in wheat. The cotton or wheat in the mill is worth just what cotton is on the exchange. But rubber in Akron may be worth twice as much or half as little as it is on the markets. The big tire manufacturer thinks he cannot hedge, because there is no one to hedge against—i.e., no market comparable to the cotton and grain markets which will share



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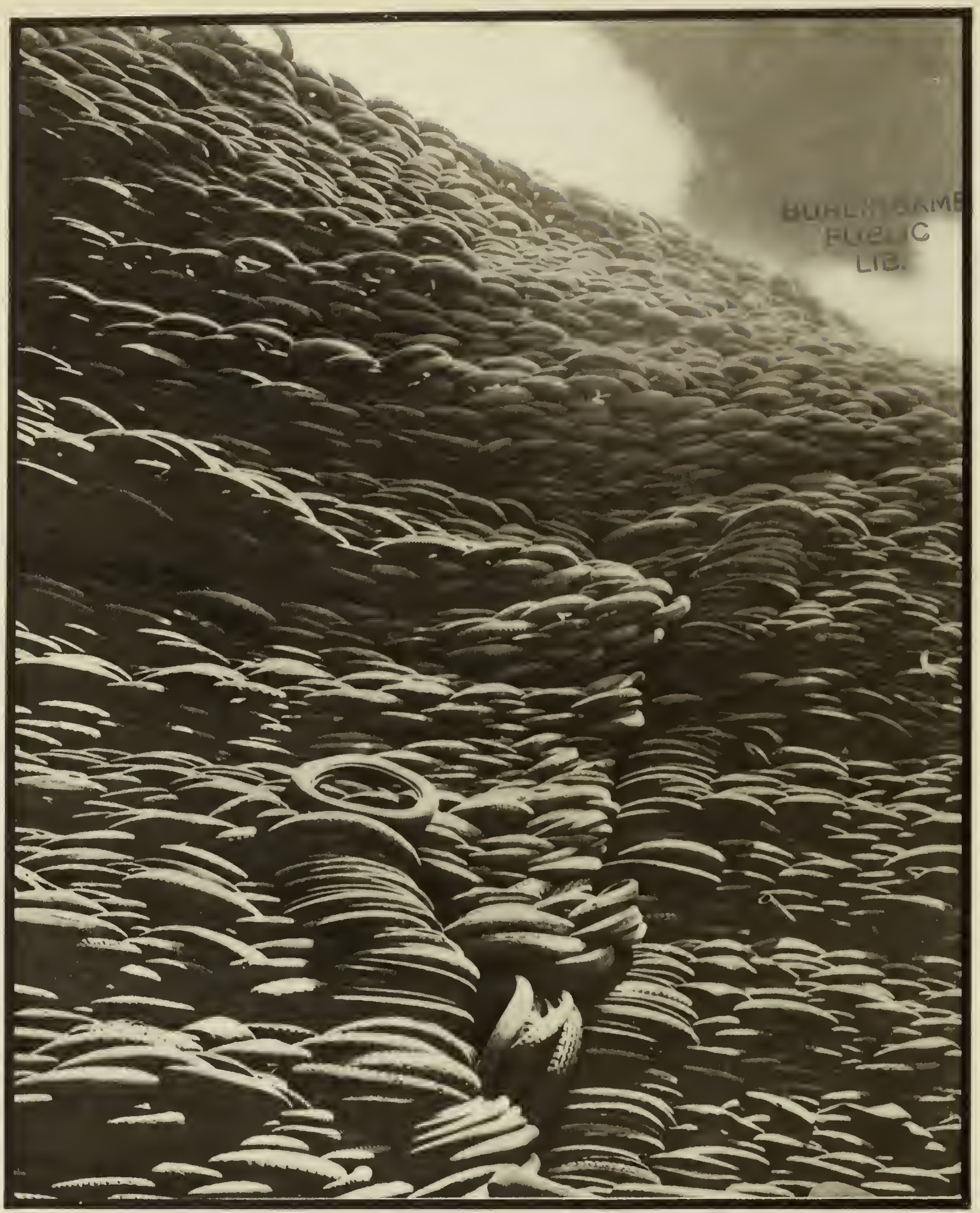

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Rittase

TWENTY-FIVE MILLION TIRES REVERTED TO RUBBER IN 1929

the risk and average off his gamble from day to day. That is his explanation, but it is only partly valid for the present in view of the fact there *is* an active rubber exchange in New York. In any case, there have been times when the tire manufacturer felt that to predict the price of rubber was equivalent to predicting the hole in which the roulette ball will fall, and he was forced to accept a speculation in a commodity over which he had no control. It is now possible that he is still too much under the spell of the frantic past. He may have difficulty in realizing that the future of rubber can and probably will be entirely different from its past—that future dating from approximately this year. In any case, even though the event may defy logic, the situation is worth examination.

In order to find out what rubber is worth, we begin by the assumption that it is worth the cost of production. By production in this case we mean simply and only the cost of getting the latex out of a full-grown tree, getting the rubber out of the latex, and shipping it to London or Akron. Nothing more—*nothing for depreciation on the acreage, no return on investment, no profit.* And we find this cost to average about thirteen cents a pound, whereas the market price has currently been well below eleven cents.

That is the cost for a large efficient plantation managed by Europeans. Such a plantation may have 15,000 acres. There will be a staff of only ten or twelve white men: a head man, three assistant superintendents (one for each 5,000 acres), an accountant and one or two other whites at the central office, an arboriculturist and perhaps another research man, a doctor, an engineer. They are apt to be a sturdy lot. In the case of U. S. Rubber and Goodyear, the men are handpicked as to brains, health, and, above all, character. They are better married, for it is a simple matter of fact that the moral environment of the tropics cannot duplicate that of temperate zones. They find plantation life pleasant. They must not work too hard. They have droves of servants, automobiles, good roads, and one or two places to go. (In Malaya, the wives go frequently to Singapore.) Then there will also be upon this plantation some 3,000 or 4,000 natives—brownskins and black. They have been brought in shiploads from China or Java and have been elevated in the scale of civilization by the great business which brought them. Back in the native village, a man in the labor-business offered some young buck $10. The buck took it and the whole village celebrated for it meant for him a rise in life. If he is delivered to the plantation in good health, the Labor Agency gets $60. At every point he has been subjected to strictest medical tests, has slept in hospitals for the first time in his life. When finally approved he settles down to three years' work, if under Dutch control; under British control he may quit anytime. (Incidentally British are famed for patience with and care of their natives.) Usually he stays on indefinitely, for, after a preliminary period he gets 25 cents a day in addition to living conditions far better than he was born to. If he has a wife, he is given a hut in the married community. If not, he is put in the bachelor row where one woman quite easily takes care of three men. He works only about six hours a day—in the early morning, for only then does latex flow readily. Sometimes when he emerges from the vast groves with his gallon or two of latex he will encounter a white man with a great jar under his arm. As he and his fellows pass by in a line the white man will thrust into his hands a cup filled with liquid from the jar. It is quinine and water. A nasty drink. But since everyone is more or less infected with malaria, it is necessary.

To earn his keep plus the $60 paid for his services for three years, the native must tap six hours a day—in the early morning, 200 to 400 trees a day. This will yield from mature trees about 8 pounds of dry rubber.

The cost of rubber in cents per pound deposited in Akron is:

Head office expenses (London)	1.25
General estate expenses	2.25
Tapping costs	2.50
Transportation to ship	.40
Factory	2.00
Weeding	1.50
Ocean freight	2.00
Depreciation on machinery	1.00
Total	12.90

Of course, these cost figures differ enormously. For example, the same labor in tapping a five-year-old tree will result in less than one-third the rubber from the same labor on a ten-year-old tree. Thirteen cents is not so much an average as an efficient average. And be it noted that these costs are scarcely reducible. The labor is already

[*Continued on page 141*]

Four Giants: All Different

An attempt to visualize the rubber industry by means of a note on each.

EVERYONE understands that the movie business is very young. The first stars are living yet, no older and perhaps even younger than ourselves. If the business has committed the grossest sins of extravagance, if nearly as many fortunes have been lost in it as have been made, if its finance has sometimes been crazy and its method unethical, if its costs of distribution are even more wasteful than its costs of production, the explanations are quickly accepted.

Not only is the rubber tire business equally young, but it has passed through just as many fundamental changes as the movie business. Because its profits and consequently its securities have been extremely erratic, it has been subject to continual criticism. The defense of youth is equally valid but less obvious. It is the difference, perhaps, between a jury's reaction to a pretty girl and a husky longshoreman.

The movie business is presumably more difficult and intricate than the tire business. But also it is by no means so close to the economic heaven of stability as is the tire business today. The movies are perhaps by nature doomed to a perpetual youth. In the case of tires, the weight of evidence seems to show that youth, together with its major uncertainties, has passed.

There are today four rubber companies in the giant class. In order of their total 1929 sales they are:

Goodyear	$256,000,000
U. S. Rubber	193,000,000
Goodrich	164,500,000
Firestone	144,500,000

Last fall Goodrich absorbed Hood and last spring it absorbed Miller. If 1929 sales of these companies are consolidated, Goodrich just passes the $200,000,000 mark, and the total for the four companies comes to almost $800,000,000 out of a grand total of $1,250,000,000 for the entire industry. This year these four companies will account for a full two-thirds of America's rubber industry. Into these four we shall inquire.

No less important than the size of these four as a harbinger of stability is the elimination of literally hundreds of smaller companies which varied anywhere from "gyp" concerns to sizable affairs such as the aforementioned Hood or Miller. A third of the business still remains in smaller hands, but this percentage seems likely to decrease. Fisk is the fifth biggest company ($53,000,000 sales), and it has been losing big money for years, never having recovered from the rubber crisis of 1921. Many another company is facing the alternative of bankruptcy or absorption. Exceptions, of course, there are—and always will be. Notable are General and Lee, both profitably serving a high class trade, the former having increased rapidly to sales of about $25,000,000 a year and the latter holding a steady $10,000,000 plus at the town of Conshohocken, Pennsylvania, which it has made famous. Such firms as General and Lee are not sore spots in the industry. Content to merchandise a quality product, they have developed a clientele which they can hold without seriously upsetting the price structure of the industry.

The four giants are as different as any four giants could be in an almost identical environment. Three of them (Goodyear, Goodrich, Firestone) are Akron born and bred, and the same three have plants at Los Angeles. All four have been next door to bankruptcy at one time or another. All, at one time or another, have made huge profits. All of them are loaded with mortgages and/or preferred stocks. All have utmost confidence in the future, which is evidently shared by Cyrus Stephen Eaton, who has recently bought control of Goodyear and has a large interest in Goodrich and Firestone. There the similarity ends. As we shall see, the greatest difference is between the three Akronites and U. S. Rubber. But even between the two largest Akronites there is a vital difference in policy, for the guiding star of Goodyear is Transportation and the guiding star of Goodrich is Rubber. Goodrich says the best policy is obviously diversification, and consequently makes 32,000 *different* rubber articles. Goodyear says that the merits of this policy are by no means obvious and fastens its attention upon fastening rubber onto things that move.

1—Goodyear

In 1909, Goodyear made 100,000 tires, and last year it made more than 20,000,000. But that does not begin to tell the story. The tires Goodyear made in 1909 were good for twenty million miles; its 1929 tires were good for three hundred and fifty *billion* miles. That is the story. In 1909 the public's dollar (such few as were paid for tires) bought fifty miles worth of tire travel. In 1929, the dollar bought 1,000 miles. And that, too, is the story.

Most of this difference has come in 1920-30, not in 1910-20. For example, in 1920 one able-bodied man was lucky to make one tire

[*Continued on page 88*]

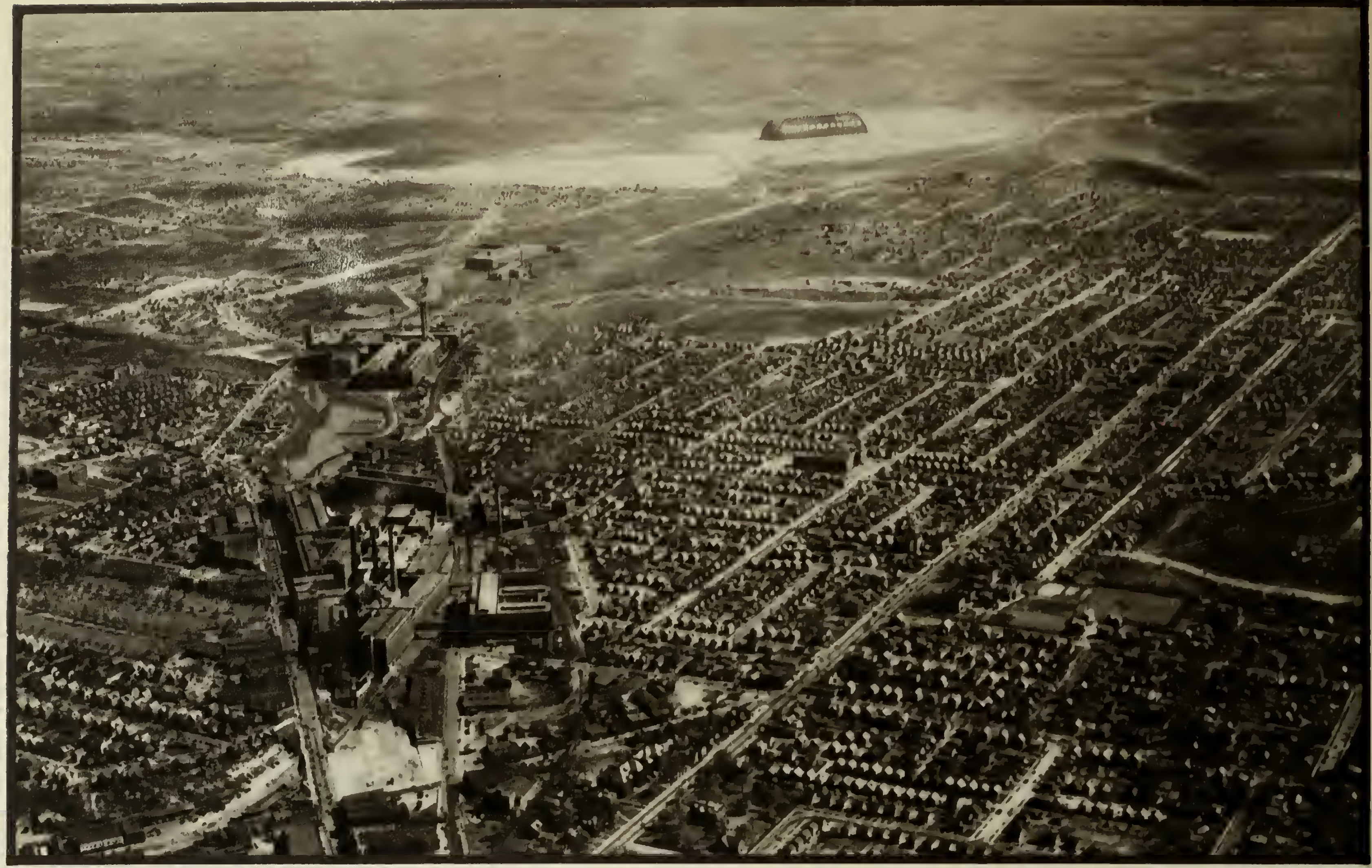
PAUL W. LITCHFIELD
PRESIDENT OF GOODYEAR

Bachrach

JAMES D. TEW
PRESIDENT OF GOODRICH

Underwood & Underwood

FRANCIS B. DAVIS JR.
PRESIDENT OF U. S. RUBBER



C. SLUSSER

Goodyear's Blimps and Zeppelins

ONE of the most spectacular spots in America is the Goodyear Dock, which resembles nothing so much as a young mountain in the middle of a plain surrounded by full-grown hills. The doors at each end are opened by running them along railroad tracks by the side of the structure. (The picture opposite shows a door half-open.) In this dock is being built for the U. S. Navy the world's largest airship—twice as big as the *Graf Zeppelin*, more than twice the *Los Angeles* size, and 35 per cent larger than Britain's *R-100* or *R-101*. Its cost is about $4,000,000, and it will be completed next year. It will have eight engines and ability to go 10,000 miles without refueling. It is known as *ZRS4*, and a sister ship, *SRS5*, is projected.

If Goodyear could make a dozen of these, the cost might well come down to $2,000,000. And at such a price regular transatlantic service is believed to be economic. At any rate, the International Zeppelin Transport Corp. (in which Goodyear has an interest) is keenly analyzing the possibilities.

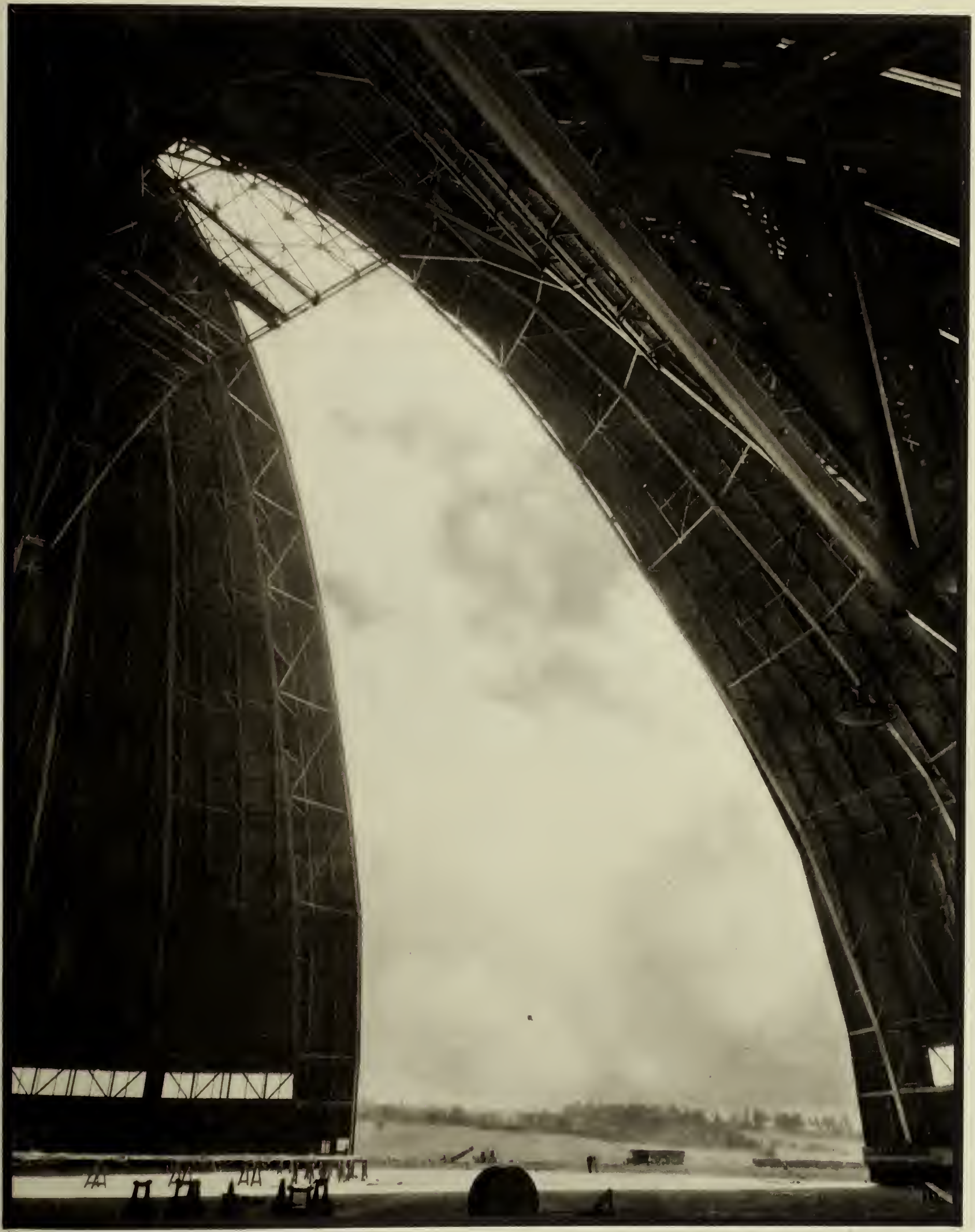
For years Goodyear has been building lighter-than-air craft. Its blimps, one of which you could buy for $40,000, are effectively used for Goodyear publicity. (Most dramatic lighter-than-air service was when 100 observation balloons went to war.) Goodyear executives (three of whom are pictured on this paper) love to take rides in them. They will go some fifty miles an hour, and if their engines should stall, no danger ensues.

A Zeppelin can do about eighty miles an hour and has this advantage over the much faster aeroplane: it *lifts* itself for driving purposes. Zeppelinites believe that the main long trade routes of the world will eventually be served by dirigibles, with aeroplanes acting as feeders from every direction. So far as dependability is concerned, dirigibles have attempted to cross the Atlantic seven times and have crossed it seven times.

P. E. H. LEROY

Bachrach

ROBERT S. WILSON



Rittase

MAMMOTH DOORS SWING OPEN TO ADMIT GOODYEAR'S SHIPS TO DOCK in a day. Today, one man when hitched up to enough other men and to a lot of brand-new machinery can make five tires in a day, each of which will go three or four times as far as the tire of a decade ago.

Rubber might justly claim to be the most curious accident of Nature. It is soft, yielding, but, in one respect, many times tougher than steel. You cannot build rubber skyscrapers for the rubber would bend, but you can rub away steel where you cannot rub away rubber. Tires were originally made of rubber because rubber is soft. Now it turns out, as a beautiful surprise, that nothing is so tough. Rubber resists abrasion more than any available metal. Rubber would be preferable to steel for railroad wheels, except for cost and the fact that the flanges would break and the cars jump off the track.

But this toughness is not a quality of Nature. Rubber comes to Akron in bundles of various kinds of sheets. These bundles are put into a masticator which looks like a huge laundry-drying machine. It comes out of the masticator in a condition resembling thoroughly chewed chewing gum. In this state it goes to the mixer. And here great mysteries occur. The only secret in a rubber factory is what goes into the mixer along with the rubber. Different things in different combinations go in to make different kinds of treated rubber. But to make tough rubber, one thing is above all notable. And that is carbon black. Why carbon black (which is nothing but the soot accumulated after burning natural gas) should be the one thing which will make rubber supremely tough, nobody exactly knows. But it is. For every ten pounds of rubber in your tire, there are a couple of pounds of gas soot, and those couple of pounds make a difference of some 10,000 miles in your tire's mileage.

Every big company has contributed to the chemical improvement of Nature's rubber. Goodrich (*not* Goodyear) claims for its great George Oenslager the credit for the introduction of carbon black, the abrasion resister. And the companies divide the credit on the introduction of the even newer *age* resisters—complex coal tar derivatives which prevent rubber from deteriorating and which make it possible for you to store your car all winter without having to buy new tires next spring. The big advance in the early days (again, in large part creditable to Goodrich) was the shift from inorganic to organic accelerators to speed and improve the marriage of rubber and sulphur in vulcanization: such coal tar derivatives as diphenylguanidine and mercoptobenzothiazole reduced vulcanizing time from hours to minutes, with an obvious effect on plant efficiency.

The increase in tire mileage from 2,000 or 3,000 to 20,000 or 30,000 miles is an achievement which the great American companies share largely in common. We record it here because since 1916 Goodyear has made more tires than anyone else and today makes nearly twice as many as Firestone which, in the tire field, is No. 2.

The Seiberling brothers started the Goodyear business in 1898 with 176 employees, the characteristic tune of the times being:

> And you'd look so sweet
> Upon the seat
> Of a bicycle built for two.

The only connection with Mr. Goodyear was the purchase of the right to use his name. (Mr. Goodyear's heirs have profited little from his classic discovery.) The Seiberlings got out of the business when they had taken it to annual sales of $168,000,000 (20,000 employees and a profit in 1919 of $18,000,000), and when, along with other tire manufacturers, they had failed to foresee the calamities of 1921. The dramatic Goodyear debacle of that year and the subsequent years of Dillon, Read financing have nothing to do with the present, except that Goodyear has enjoyed the benefits of reorganization ever since, whereas some other companies postponed necessary readjustments.

CYRUS STEPHEN EATON

In recent years Otis & Co. of Cleveland has taken an outstanding position in the financing of rubber companies. Last year Mr. Firestone revamped the capitalization of his company with an issue of $60,000,000 of preferred stock, and recently Goodrich issued $30,000,000 of debentures. But to be a banker is one thing; to be a partner is another. This spring it became known that Mr. Eaton, outstanding Otis & Co. partner, had acquired control of Goodyear, the biggest tire manufacturer. Thus both by his public banking services and his personal investments Mr. Eaton practices his policy of supporting Ohio industries.

Today Goodyear, in sales and profits, is far out front. Its ambitions seem unbounded. It feels that it is, and is determined to become more than ever, the dominant provider of rubber-on-wheels.

This determination is best expressed in terms of a management team consisting of President Paul W. Litchfield and half a dozen others who, taken together, present an extraordinary impression of abundant vitality, combined with a sophisticated intelligence hitherto not always associated with factories. One of the team is "Cliff" Slusser, production vice president, who is physically a stocky, muscular, football type. Coat off, sleeves rolled up, he strides through the factory with the speed of a Roosevelt wearing out the diplomatic corps in Rock Creek Park. He has 16,000 men in his Akron plants alone and will bet anybody that he can call 5,000 of them by name. And anyone of the 16,000 can see him personally whenever he wants (about twenty a day come to him). As he strides through the factory miles he could, if he would stop, recount the complete mechanical reorganization of nearly every floor. When Litchfield put him in charge at Akron seven years ago, even the simplest elements of line production were lacking in many parts of the process. Tires were toted around by hand instead of put on a conveyor such as was commonplace in more highly developed industries. Only today does tire manufacture really approach mechanical perfection. As neat a mechanism as you will find anywhere is Slusser's automatic watch-timed vulcanizer for inner tubes. This is a series of twenty ovens, which are served by just one man: an oven opens, the man pulls out a vulcanized tube, puts in an unvulcanized tube, goes on to the next oven which opens automatically exactly as he arrives. It takes the man exactly eight minutes to go down the line, and each of the twenty ovens opens for him the second he arrives and closes the second he leaves. (On page 100 is a picture of a tube vulcanizing oven in the Goodyear plant which differs basically from others in that it is automatically timed—setting a good fast pace for the operator.) Due to its mechanical efficiency and to its huge volume, Goodyear is convinced that it can produce tires cheaper than anyone else. This, of course, is a debatable point, but the conviction is nevertheless fundamental to Goodyear's faith in its future.

Having produced tires, you must sell them. Or, it is far truer to say that if you can sell them, you will be given the privilege o producing them. For this purpose Rober Wilson is on the management team. Th problem of tire sales will be discussed unde Firestone, but here it can be said that Goodyear has great "public acceptance."

In the case of tires it is not enough to mak and to sell them. The tire treasurer must b as smart as possible and then somewha smarter. Such a treasurer Goodyear has i P. E. H. Leroy, who came from Wall Street Goodyear is often, for better or for worse the owner of crude rubber for which it ha paid $30,000,000. If Goodyear has pai thirty cents a pound and the price thereafte drops to twenty cents, it is apparent tha Goodyear's rubber is promptly worth $10,000,000 less than they paid for it. That mean $10,000,000 deducted from profits at th year's end. But it may mean worse. For drop in rubber prices is followed by a drop i tire prices which means that, on top of th inventory loss, the current receipts are less, s that the company may have to go to the ban

[*Continued on page 98*

Model Women

Will hereafter be shapely. As femininity is reëstablished, some ladies discover the melancholy of anatomy. But many more exult.

ANY man who has kept his eyes open during the past year has been aware that the feminine figure is again receiving a fashionable emphasis. And not only the feminine figure, but femininity. In addition to pursuing the significant curves, the current styles exhibit such nuances of fabric and furbelow as have not been seen since the flouncy days before Irene Castle bobbed her hair and the Original Dixieland Jazz Band arrived at Reisenweber's with a species of pulsation which put the kibosh on the long skirt and its implications. But the long skirt is back, as is the murmurous music of Vallée and Reisman and Lombardo. A year ago, in fact, the streets were full of garish extremists who traipsed around in the most impractical shrouds, but the early stages of any great movement are always characterized by aberrations.

The movement has now attained a steady, discreet momentum; stylists have more of an idea what women want, as have women themselves. The curve of the hip, for instance, is regarded as desirable, whereas a bulging abdomen is held to be socially inconsiderate (a girdle will regulate both, in addition to defining the waist). And the skirt length which is so graceful and appropriate for the glistening ballroom is seen to be injudicious for the dusty streets. In short, the feverish period of revolution is over, and the new régime is being directed in the light of experience and reflection.

It would be a great mistake to suppose that the new mode has been forced upon women by the couturiers. That is not the way of the fashion world. The fact is that during the post-War years women concealed themselves beneath straight-line costumes, usually belted about the hips, and appealing to men chiefly by reason of a rash degree of abbreviation. As this style persisted, men grew practically insensible to the sight of knees and thighs, and women, not necessarily for this reason, grew tired of the mode which revealed them. Couturiers began catering to this fatigue. First, they offered length in evening attire; it was quickly accepted. Then, also in the evening, they moved the belt accent higher and higher toward the natural waist and began to follow the natural contours. Last fall's vagaries resulted from the sudden extension of this evening mode into the daytime. Properly

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P. & A. Photos

modified, it has succeeded. Exposure is now in bad taste. And for men the interest lies elsewhere—in figures revealed by innuendos of fabric.

There are various concomitants of the new mode. One is the type of mannequin pictured in these pages. All that was necessary to exhibit the outmoded straight-line dress was a pair of shoulders from which it could be hung. Such a dress gained its interest not from its shape, which was simple and standardized, but from its colors or patterns, which could be observed in any type of display. But the present mode being a mode of shape—shape of the costume in general and of its component draperies in particular—you cannot demonstrate how a certain gown is swathed about the hips unless you have convenient hips. Hence the function of *papier-mâché* hips and *papier-mâché* whatnots. The anatomically explicit model is now used by such New York shops as Franklin Simon's, Lord & Taylor's, Stern's, Macy's, and such outlying emporiums as Loeser's and Namm's (Brooklyn), Bamberger's (Newark), Horne's (Pittsburgh), and Hudson's (Detroit). Its popularity is bound to increase. A footnote on its use has been provided by Amos Parrish & Co., vast and efficient New York bureau of fashion prophecy and information, which imported several European mannequins like those illustrated. It was discovered that they could not properly wear American clothes. American women, it appears, have broader, flatter figures than those of the Continent. Subsequently the European model-makers have studied and expertly reproduced the distinctive American anatomy.

In the wake of the new mode were a few objections. It eliminated the home dressmaker whose humble skill could not be expected to cope with the suave, intricate draperies in demand. It made some sort of corsetry almost inevitable. The dressmaker objection stands. The corsetry objection has been overcome by the elimination of whalebone and other uncomfortable elements from the corset. But the new mode was bound to please more than it offended. Only one sort of woman objects to it—she whose boyish figure is naturally straight-line, who has no hips, no waist, no bosom. And she is in a decided minority. On the other hand, the shapely woman is now in her element. The knock-kneed, bow-legged, or fat-legged woman applauds the mid-calf daytime skirts and evening gowns which just clear the floor. And short-legged women can obtain a semblance of limb length with long skirts and waist lines which may be placed as one wishes. Fashion's bugaboo, the fat lady, is certainly less appalling in a costume which constrains her opulence than in the loose drapes which used to magnify it.

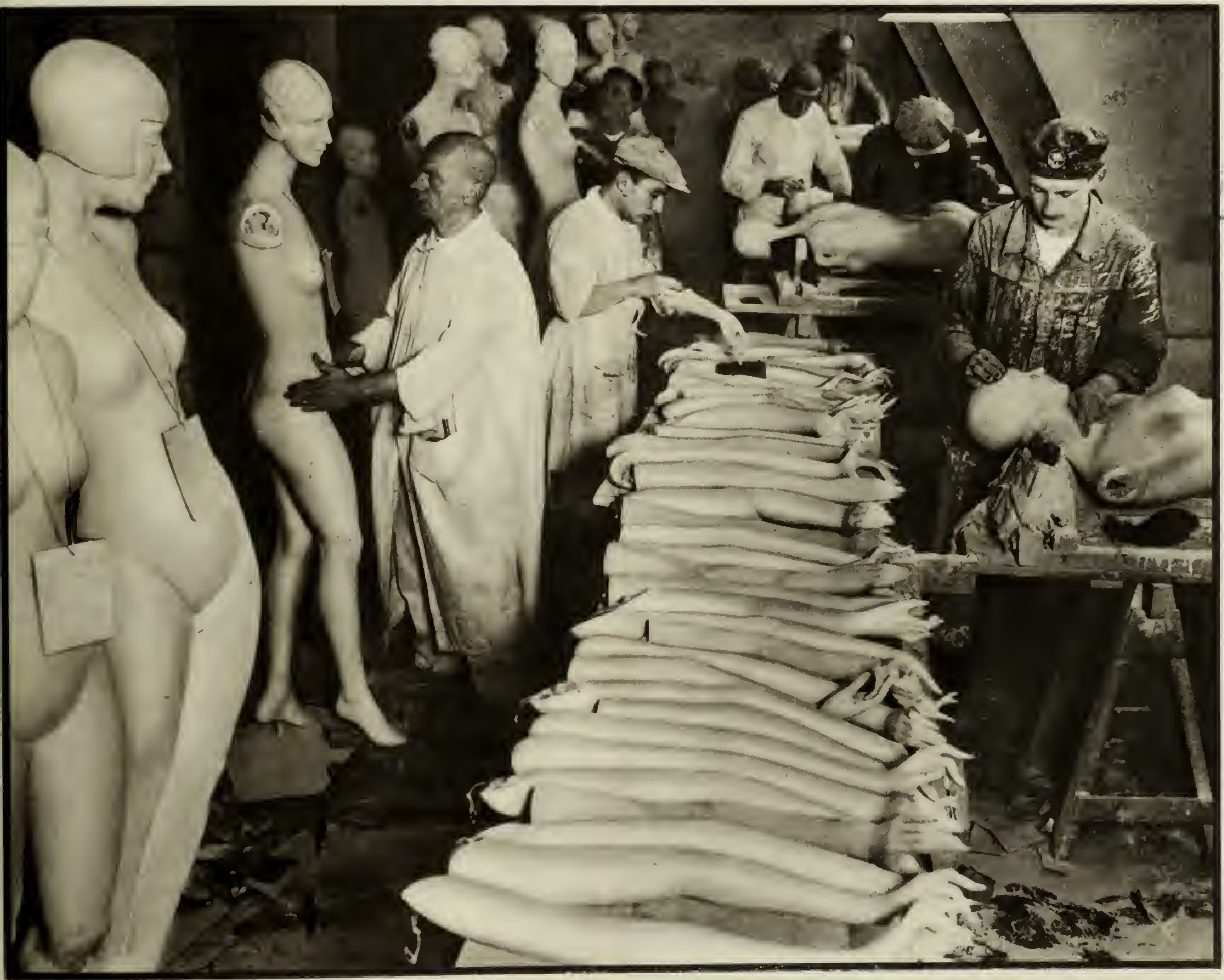
Let us now suggest more specifically the course of fashion for the autumn and winter.

The casual, post-War manner of dress is definitely done. As woman's costumes move away from man's toward a pronounced femininity, formality increases. And with formality comes elegance. This is reflected by the predominant colors—dark tones for the day; white, off-white, "love" pink, and jewel tones for the night. And by the materials—sumptuous and rich, particularly in the evening. And by an elaboration of line and detail—side accents, crossed and wrapped effects, the use of fur as decoration. This intricate mode calls, by the laws of balance, for simplicity in accessories—hats, hose, handbags, shoes—which should all decoratively subserve the gown itself, in which the principal interest lies. In this period of formalism, women will require a greater variety of costumes, each adapted to its particular social purpose. Sportswear, for instance, will be strictly confined to sporting events.

The historic, high-waisted styles which have greatly influenced the modern mode—Victorian, Empire, Greek—may be expected to continue in that service. Waists incline to be a trifle higher, and skirts a trifle longer. The uneven hem line, featured last fall, gives way to hem lines even either in actuality or effect. In general the treatment of the waist will tend to be simple, with emphasis placed upon the regions above or below. Among the emphatic devices are attached scarfs, shoulder capes, fichus, berthas, peplums, tunics, tiers, flounces, short trains for very formal evening wear. Contrasting colors and materials are favored for both daytime and evening.

Coats will be fitted, either bloused or caped, and as long as the dresses beneath them. Only in sporting coats will the three-quarter length be tolerated. Suits and blouses will be very important, the latter delicately hand-worked, often suggesting the celebrated peek-a-boo manifestation of a decade ago. As every woman knows, a blouse tucked inside a skirt is apt to be bunchy underneath the skirt top. Some smoothing influence is needed between blouse and skirt. Thus there is a bold faction among the stylists which advocates the return of the petticoat.

Clothes are often indicative of states of mind. Many speculative persons believe that a return to dignity and formalism in attire presages an accompanying return to statelier morals and manners. But anyone who has watched the modern woman adapt the long skirt to modern convenience finds it easy to predict that she will do likewise with her behavior.



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The pictures on this and the adjoining pages are of mannequins designed to accommodate the modern mode which, for the first time since the War, emphasizes the natural figure. Those illustrated are German; similar mannequins will be increasingly observed in Europe and America.

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united institution. He is reputed to belong to more clubs than any other Bostonian, and probably to more directorates, including the boards of Gillette Safety Razor, Campbell Soup, General Electric, American Sugar Refining, and International Paper & Power.

Other Telephone New Englanders include Arthur Lyman, one-time mayor of Waltham and long a financial pillar for the Massachusetts Democratic Party (he was state treasurer in the campaign that carried Massachusetts for Alfred Emanuel Smith). Mr. Lyman married a Cabot, and his father married a Lowell. On his Waltham estate camellias blossom in February (here was built one of the first U. S. greenhouses), plows are still drawn by oxen, and there is an ancestral manor in which Washington and Lafayette are reputed to have slept.

There is also George Peabody Gardner, perhaps wealthiest of the Boston contingent. Mr. Gardner gave Boston its aquarium, and a boulevard in South Boston is named in his honor. He is seventy-five, owned Telephone stock even before the company moved to Manhattan, and still comes regularly to Telephone meetings. And not to be forgotten are Henry Saltonstall Howe, who is eighty-two and whose family was among the earliest Telephone investors, or Eugene V. R. Thayer, who was once president of the Chase Bank and is now chairman of the executive committee of the (Dawes) Central Trust Bank of Chicago. It is a long time since the New England group who furnished the early capital for the Yankee toy that Alexander Graham Bell invented at Boston, Massachusetts, have controlled the Telephone company, but many an able son of an able father has continued its influence.

The difficulty of drawing hard and fast Telephone classifications is illustrated by the fact that two of its most distinguished public servants are also New Englanders of the rockiest rib. They are Thomas Nelson Perkins and Jeremiah (Jere) Smith Jr. Mr. Perkins was counsel for the War Industries Board (of which Daniel Willard was chairman), later accompanied Colonel House to Europe, and served on many War and post-War commissions, acting as alternate for Owen D. Young on the commission which last year produced the Young Plan. He was a Fellow of Harvard at twenty-five (youngest ever), but frequently shocked the other Fellows by his slang and profanity, the late great President Eliot once asking to have some of his remarks repeated in the English language. He married a daughter of the late Charles Francis Adams, is a member of a Boston law firm to which Archibald Graustein of International Paper & Power also belongs, is chairman of the board of the Boston and Maine Railroad. He was best man at the wedding of Nicholas Longworth and Alice Roosevelt. He is a hero-worshiper with Owen D. Young as chief hero.

Jeremiah Smith Jr. is one of the few Democrats from New Hampshire and doubtless the only Telephone director who could not by any stretch of the imagination be considered a man of means. He was little heard of until, in 1924, the League of Nations having loaned (via the House of Morgan) $50,000,000 to bankrupt Hungary, put into his hands the administration of this money and made him complete dictator of Hungarian finances. In a two-year period Mr. Smith straightened out the terribly inflated financial structure of a poverty-stricken people, refused to accept a $100,000 salary to which he was entitled, told grateful Hungarians that "If you give me a decoration I will never forgive you," declined proffered degrees from Harvard and from Yale, and left Hungary with nearly half of the $50,000,000 still unspent. The $100,000 which he refused to accept is now being used as a scholarship fund to send picked Hungarians to American colleges.

From the Telephone standpoint Director Daniel Willard, great railroader, is considered primarily a great public servant. He was associated with Mr. Gifford on the Council of National Defense, and his telephone directorate is the only board position he holds apart from his railroad and banking activities. And Mr. Gifford, in turn, is associated with Mr. Willard as trustee of Johns Hopkins University. Other Telephone public servants are John W. Davis, one-time (1918-21) Ambassador to the Court of St. James's, and David Franklin Houston, Secretary first of Agriculture, then of the Treasury, in Mr. Wilson's cabinets. At the close of the Wilson administrations, Mr. Houston joined the Telephone company, heading the then (1921) newly formed securities company which has so successfully devoted itself to the wide distribution of Telephone stock. No longer a Telephone director, but certainly a public servant, is Owen J. Roberts, prosecutor of petroleum connivers, who resigned his Telephone position to join the U. S. Supreme Court.

As for the dominantly financial membership of the A. T. & T. board, George Fisher Baker is of course most representative. Many years ago, on Jekyl Island [FORTUNE, February, 1930], Mr. Baker used to gather around him a little group of men who symbolized all that was most powerful in American finance. That group (of which Mr. Baker is the lone survivor) included J. Pierpont Morgan, James Stillman, and James J. Hill. It also included Theodore N. Vail, the man who took the Telephone company when it was little more than a promise and only left it when it was a little less than a monopoly. To the present day the Telephone company and the U. S. Steel Corporation remain the companies in which Mr. Baker takes his most active interest although the New York Central and the Mutual Life are also strong claimants for his continued regard. Since 1924 Mr. George F. Baker Jr. has sat with his father on the Telephone board. James Strange Alexander, retired chairman of the board of the Guaranty Trust; Edward Eugene Loomis, of the Lehigh Railroad, Mr. Baker's most intimate friend; and Myron Charles Taylor, of U. S. Steel, are other great names which are great Telephone names as well.

Lone operating executives on the Telephone board are Vice President Charles Proctor Cooper and President Walter Sherman Gifford. Mr. Cooper, who rose from the New York Telephone Co. ranks to the presidency of the Ohio Bell Telephone Co., is chiefly an alternate for Mr. Gifford, representing the management in his superior's absence. The Telephone company has eleven vice presidents against eighteen directors, but purposely restricts its management directorate so as not to confuse the Board's position as an advisory council with that of a super-executive committee.

As for Mr. Gifford, it is difficult to consider him as a director without considering him as the president, yet any adequate consideration of this latter function should demand a separate and more extended treatment. Even if he were not a director *ex officio*, he exhibits the usual qualifications, for he was born in Salem, he graduated from Harvard (along with Clarence Dillon), and during the War ably supervised the handling of many millions of dollars in the purchase of government supplies. Familiar enough is the story of how, after his graduation (1905), he asked both General Electric of Schenectady and Western Electric of Chicago for jobs, put the General Electric letter in the Western Electric envelope, and vice versa, but got the Western Electric job anyhow and began his career at $10 a week. It was only twenty years later that he was Telephone president, at a salary reputed then to be $200,000 a year. Other men, however, have risen as rapidly as Mr. Gifford and from beginnings at least as humble. The most significant contribution that Mr. Gifford has made, not only to the Telephone company but to contemporary economic thought, has been his statement, already discussed under another heading (see page 38), concerning the profit policy of his company. This country is crowded with corporation presidents whose corporations are making a great deal of money. Even the $200,000,000 a year which Mr. Gifford's company makes can be partially explained on the theory that under our present system some company is bound to make $200,000,000 just as some company is bound to build a skyscraper with 100 stories. What is unusual, obviously, is the corporation sufficiently self-conscious and social-conscious to believe that the position of corporations as purely acquisitive mechanisms will probably become more and more questioned. In saying, at Dallas, that the Telephone company would return excess profits to the users of its service, Mr. Gifford raised a far-reaching and fundamental issue. Whether one considers that the operations of the Telephone company are a settlement of that issue is at present beside the point. For even the statement of the proposition is new and is significant. From a superficial standpoint, Mr. Gifford is perhaps most remarkable as head of our first $4,000,000,000 company. From a more basic standpoint, he is perhaps most remarkable as the man who made the Dallas speech.

The Sherman Act Operates Today

No less than in 1911, but more quietly. The peculiar Socony-Vacuum case. And the oft forgotten Clayton Act.

IN MARCH of the present year John D. Rockefeller got, from a rather technical standpoint, into court again. For a good many years now Mr. Rockefeller has been associated with philanthropy rather than petroleum. For a good many years the Standard Oil Company of New Jersey has been a great corporation rather than a great trust. Yet the case which is now before the District Court of the U. S. for the Eastern District of Missouri has been brought by the U. S. of America, petitioner, against the Standard Oil Company of New Jersey and others, defendants, and the arguments in the case revert to the arguments which, begun in November of 1906 and concluded in July of 1911, resulted in the dissolution of the great business by Mr. Rockefeller founded and fostered. For, according to the position taken by U. S., the ancient snake had been scotched but not killed and two of its severed fragments were moving toward a strong but unhealthy reunion. So the forces of the government were again arrayed against the old monopoly, and the attorneys of the government were setting out with the fervent intention of rehanging Danny Deever in the morning. But this time—significantly enough—it did not appear likely that Danny would be hanged, and—even more significantly—the public in general seemed only mildly interested in the proceedings. Anti-trust legislation—though never more vitally functioning, never more carefully regarded, than at the present time—has lost a good deal of the emotional appeal adhering to it in the days when Mr. Roosevelt was trust-busting. The Trial of 1930 is certainly not without a very considerable significance. But it will never arouse the passions engendered by the Trial of 1906.

It was in January, 1930, that there occurred the overt act through which the petroleum business became again accused of running counter to the law of the land. For on that date Herbert L. Pratt, chairman of Standard Oil Company of New York, and George P. Whaley, president of Vacuum Oil Company, agreed, subject to the approval of their stockholders, to a merger of their companies. Under the terms of this agreement, Standard of New York was to change its name to General Petroleum Corporation and Vacuum was to sell and convey to General its property, rights, privileges, and franchises, wherever situated, after which Vacuum was to commit corporate suicide and go into a complete and permanent dissolution. General was then to deliver to each Vacuum stockholder shares of General equal in umber to three times the number of shares of the capital stock of Vacuum held by such stockholder, except that any Vacuum stockholder not wishing to accept shares in General would instead receive in cash the value of his shares as determined by legal appraisal. It is important to notice that Standard of New York was not to buy an interest in or control of Vacuum stock, but that it was taking over the entire Vacuum assets and terminating the entire Vacuum life.

After the dissolution of Standard of New Jersey, the New York company, at first somewhat in the position of a head without a body, gradually integrated itself and now, through Texas and California subsidiaries, is a large producer, transporter, and refiner of petroleum products. Its principal product is Socony gasoline, sold in twenty-nine states, but chiefly in New York and New England. It has also a very large foreign business, shipping gasoline and kerosene to Japan, China, India, and the Far East in general. Its predecessor company—Charles Pratt & Co. of New York City—was famous even before Rockefeller, and in Charles M. Pratt (father of the present chairman) and Henry H. Rogers it contributed two of Mr. Rockefeller's most able lieutenants. In 1929, Standard of New York showed a net income of $38,750,849.

Vacuum made in 1929 nearly as much money—$35,767,627—as New York but on less than one-third the assets and capitalization and on a business specializing chiefly in high grade lubricants. The motorist who asks for New York's Socony gasoline is also likely to ask for Vacuum's Mobiloil, motor oil, distributed throughout the country, and Vacuum products are so well known abroad that Vacuum's foreign business is larger than its domestic. Vacuum ships lubricants to nearly every country in the world (Russia is the conspicuous exception); does also an extensive export business in kerosene and in gasoline, selling these products chiefly in Egypt, Africa, and Australia and not invading New York's Far Eastern sphere of influence. From its very beginning Vacuum (founded in 1866 by Hiram Everest) was interested in petroleum not as a fuel (kerosene) or a medicine (patent medicine laxatives), but as a lubricant, and unquestionably was the pioneer company in the replacing of animal fats with petroleum as the ideal material for greasing the nation's wheels. Mr. Everest sold his company to Mr. Rockefeller in 1879.

Such, very briefly, are the two companies which now wish to come together and which the government wishes to keep apart. The government's case depends almost entirely upon the dissolution decree of 1911. This decree, in addition to scattering Standard of New Jersey into its several components, furthermore provided:

> That the defendants . . . are prohibited from continuing or carrying into further effect the combination adjudged illegal hereby, and from entering or performing any like combination or conspiracy the effect of which is, or will be, to restrain commerce in petroleum . . .

Both New York and Vacuum were once wholly owned subsidiaries of Standard of New Jersey, competition between them unquestionably exists, and such competition would obviously disappear with the extinction of Vacuum. Therefore, argue government attorneys, the proposed merger is a violation of the 1911 decision and the government therefore prays that the honorable court will declare the tentative merger contract null and void.

But to this argument there is a rebuttal. The 1911 decision did not forbid Standard oil companies from entering into *any* combination. It did forbid their re-creating *the combination* (i.e., the old New Jersey monopoly) *adjudged illegal*. And it forbade them to enter any *like combination* which would result in a restraint of trade. A union of New York and of Vacuum is obviously not *the combination* that Mr. Rockefeller put together. The question becomes, therefore, whether the New York-Vacuum consolidation is *like* the dissolved trust, the resemblance depending upon the New York-Vacuum's capacities along the lines of restraining trade. In other words, then, the proposed New York-Vacuum merger must be convicted of a violation of the Sherman Act, just as the old Standard of New Jersey was convicted of being a violation of the Sherman Act; otherwise the fact that the companies concerned are former Standard companies is irrelevant.

And—argue attorneys for the defendants—the proposed combination can in no wise be regarded as even faintly resembling Mr. Rockefeller's fallen tower. The proportion of the petroleum industry that would be controlled by New York-Vacuum is very much smaller than the proportion of the steel business controlled by U. S. Steel Corp. or of the automobile business controlled by General Motors, and the proposed company would (unlike Steel and Motors) fall far short of being the largest unit in its field. Even in New York and New England, Socony stronghold, Socony's gasoline and kerosene business has shrunk from 85 per cent of the total in

a story in the *STARS*

BURLINGAME PUBLIC LIB.

Since the first year of this advertising agency's life, sixty per cent of its growth has come from new business given by *old* clients. During these six years, *every* client listed below who has had more than one account to give, has rewarded Young & Rubicam in this way. The stars tell the story.

August 1, 1923—The infant Agency of Young & Rubicam, a mere speck on the advertising seas, is entrusted with the advertising account of the Pennsylvania Grade Crude Oil Association.

December 15, 1923—The Postum Company attracts attention to the mere speck by placing with it the advertising of Postum—one of several Postum Company products.

June 21, 1924—The Black Flag Company widens the circle of Young & Rubicam clients.

September 5, 1924—A. G. Spalding & Bros.—having retained Young & Rubicam for a special merchandising study—decides to venture into the National Advertising field, with a modest campaign on Spalding Swimming Suits.

January 20, 1925—A new account—La France (for laundering)—comes in to start the new year right for the young Agency.

April 18, 1925—The Budd Wheel account joins the growing family.

★ May 1, 1925—The Swimming Suit venture having proved successful, Spalding decides to advertise Golf Balls, Golf Clubs, and Spalding Retail Stores.

★ May 20, 1925—The Postum Company—after watching the workings of Young & Rubicam service for 17 months—rewards the Agency with another Postum product—Grape-Nuts.

★ December 2, 1925—The E. G. Budd Mfg. Co. shows its satisfaction with the advertising of Budd Wheels, by retaining Young & Rubicam to extol the superiorities of Budd All-Steel Bodies.

★ June 22, 1926—Jell-O—the third Postum Company account—comes in.

August 20, 1926—The International Silver Company appoints Young & Rubicam to direct the advertising of the Sterling Silver Division.

★ September 15, 1926—Swans Down Cake Flour becomes a new product of the Postum Company and a new account of Young & Rubicam.

★ June 1, 1927—Wm. Rogers & Son—another member of the International Silver family—comes to Young & Rubicam.

June 2, 1927—Johnson & Johnson selects Young & Rubicam to give advertising first aid to the First-Aid Department.

July 25, 1927—Fels & Company chooses Young & Rubicam to tell the story of famous Fels-Naptha soap.

August 16, 1927—The Borden Company gives the advertising of Eagle Brand and other Condensed Milks to Young & Rubicam.

★ February 4, 1928—The service given to the Postum Company once more bears fruit. This time Sanka Coffee is the harvest.

★ October 29, 1928—Our first active account—the Pennsylvania Grade Crude Oil Association—makes a long and pleasant association even more pleasant by helping to lead a new account into the fold. Quaker State Oil Refining Company — a prominent member of the Association — is the new client.

November 15, 1928—Rolls-Royce becomes a client.

December 27, 1928—The Columbia Phonograph Company comes in.

★ January 1, 1929—Johnson & Johnson follows the lead of several other Young & Rubicam clients and brings another of its products to us for advertising and merchandising diagnosis and treatment. The newcomer is Johnson's Baby Powder.

★ March 6, 1929—Calumet Baking Powder becomes our *sixth* Postum account.

July 18, 1929—The Norwich Pharmacal Company entrusts the advertising of Unguentine and Swav Shaving Cream to Young & Rubicam.

★ July 24, 1929—The already large Postum family grows by one—Franklin Baker Coconut this time.

★ October 1, 1929—The Norwich Pharmacal Company asks Young & Rubicam to take over the advertising of two more of its products—Amolin and Pepto-Bismol.

★ January 2, 1930—The Postum Company (now General Foods Corporation) gives Young & Rubicam the privilege of telling the most romantic food story ever told—the story of Frosted Foods.

March 24, 1930—Julius Kayser & Company selects Young & Rubicam to tell the world about Kayser Stockings, Kayser Gloves, and what used to be unmentionables.

★ April 1, 1930—The Borden Company's Cream Cheese, Liederkranz Cheese, and Military Brand Cheeses come in to join the other members of the Borden family.

YOUNG & RUBICAM INC · ADVERTISING

NEW YORK · PHILADELPHIA

1911 to 34 per cent in 1929. Also, argue New York-Vacuum attorneys, New York and Vacuum are today more complementary than competitive. New York does most of its business at home; Vacuum does most of its business abroad. New York sells chiefly gasoline and Vacuum sells chiefly lubricants. Each has its foreign business in gasoline and kerosene, but each remains within the boundaries of its separate foreign territory. There is, to be sure, some competition between New York and Vacuum gasoline and between New York and Vacuum lubricants, but the elimination of this competition by no means constitutes that industrial restraint of trade visualized by the framers of the Sherman Act or realized by the old New Jersey Standard. Therefore, maintain the defendants, their union is certainly not comparable to the Rockefeller union and their proposed company can in no way be regarded as restraining, or as likely to restrain, the free flow of petroleum commerce. The companies also supply a legitimate reason for merging in that each would thereby have complete use of the other's distributing stations and that the exchange of marketing facilities would be of particular importance in enabling them to carry on their foreign trade in the face of strong foreign competition, especially from Sir Henri Deterding's Royal Dutch-Shell organization, which is the largest petroleum producer in the world.

Thus the clashing arguments and thus the issue involved. Rash, no doubt, would be prophecy concerning the outcome of a case which is still in the process of argument. But it is legitimate to point out that not only the dissolution of the old Rockefeller Trust but also the development of the motor car has tremendously expanded and decentralized the petroleum business. It is difficult to conceive of the New York-Vacuum combination as the dominating influence in petroleum, and the highly specialized nature of Vacuum's major interests does make a New York Vacuum combination considerably different from a merger between, for instance, New York Standard and Jersey Standard.

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The status of New York and of Vacuum as former New Jersey subsidiaries of course leaves them in an extremely specialized position as far as concerns the general problem of anti-trust legislation and its influence upon consolidations. There are, broadly speaking, two anti-trust measures into which a merger-planning company should carefully inquire. The first is the Sherman Act. The second is the Clayton Act. The Sherman Act forbids combinations, contracts, and conspiracies in restraint of trade. The Clayton Act forbids the purchase by one company of stock in (but not assets of) a competing company. Both in conception and in operation the acts are very different and a company might well flatly violate the one while entirely complying with the other.

The language of the Sherman Act is so broad (combination, contract, conspiracy) that it covers every form of corporate activity and the expression *restraint of trade* is also so general that every Sherman Act case has to be decided more on its particular facts than by reference to any previous decision. The critical point is what constitutes *restraint of trade.* A company does not necessarily restrain trade because it is a big company; at least, no company so far has been successfully prosecuted under the Sherman Act solely on the basis of corporate magnitude. When U. S. Steel, for instance, was attacked, there was no difficulty in showing that this corporation carried on 50 per cent of the country's steel business. But the Steel company was not convicted of having used unfair methods (such as price-fixing, rebates, etc.) in order to get its 50 per cent, or of using or intending to use unfair methods in order that the remaining 50 per cent might be secured. It is conceivable, of course, that a company could grow, however irreproachably, so big that its very size would constitute a menace. But no company has as yet reached such a size, the prosecution even of Standard of New Jersey itself having been based not on the growth of the company, but on the number and extent of the competitive corpses with which it had paved its road to supremacy. It is perhaps restraint of trade in the sense of *destruction of competition* with which the Sherman Act is most concerned; it implies a company both large enough and mean enough to bully its competitors out of existence. It deals not with the number or the size of corporations competing within an industry but with the existence and continuance of industrial competition. As far as the Sherman Act is concerned, the would-be mergerer should ask himself: does this consolidation enable me, actually or potentially, to destroy my competitors and thus eventually to monopolize my industry? If so, it will probably be considered illegal.

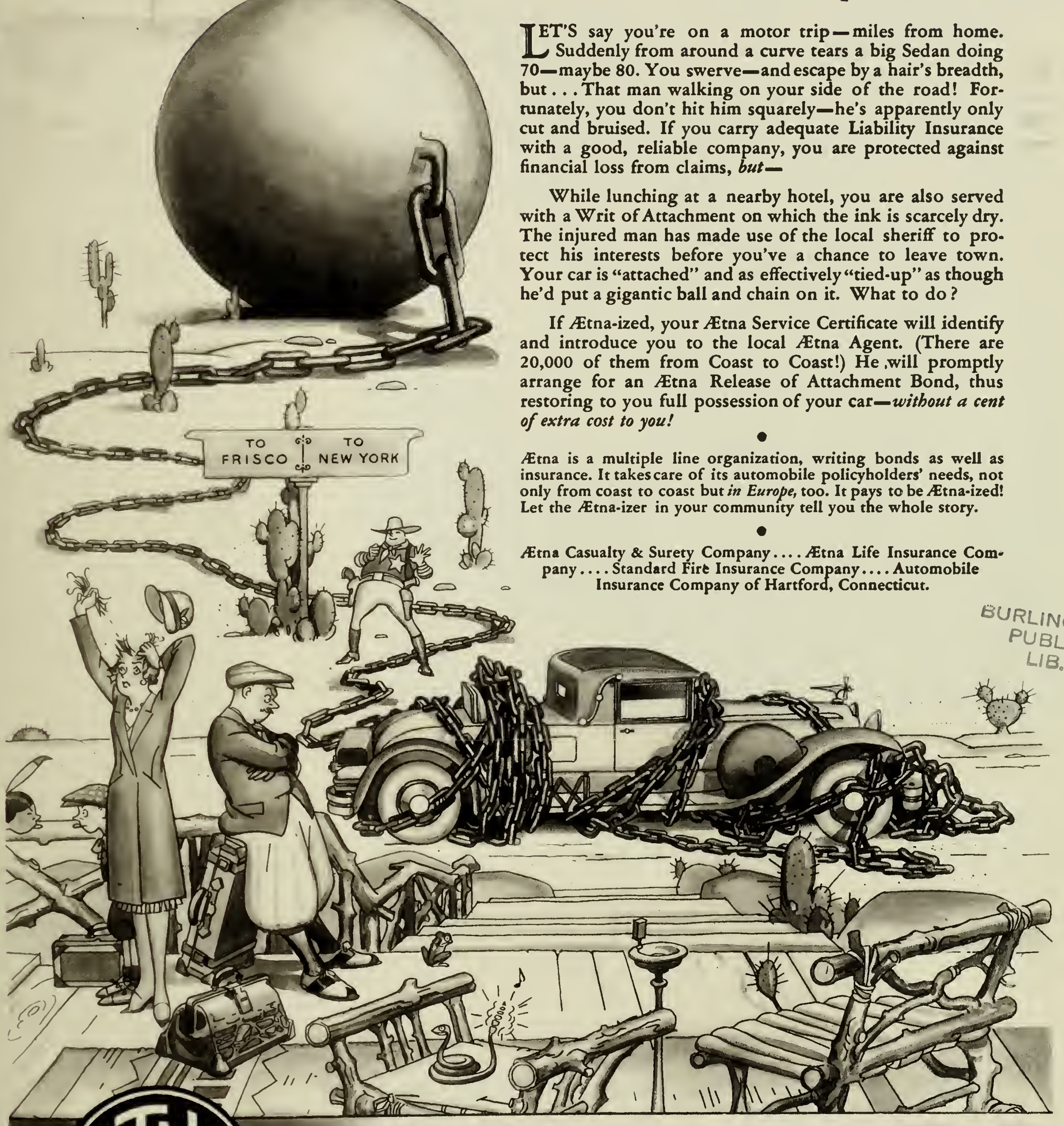
The Clayton Act, on the other hand, is pointed at that type of merger which eliminates competition between the merging companies, whether or not either of them is large enough to constitute, alone or together, a leading unit of its industry. Inasmuch as mergers ordinarily occur between companies in the same line of business, nearly all mergers *do eliminate* competition between the merging companies, and the Clayton Act at first glance looks like a blanket prohibition of the merging impulse. But it must be remembered that the Clayton Act does not say that Company A cannot *acquire* competing Company B; it only says that Company A may not *acquire stock* in competing Company B; and if Company A wants to buy the *assets* of Company B., which thereupon goes out of business entirely, the Clayton Act has not been trodden upon. The Act was really directed chiefly against holding companies and was sponsored by Woodrow Wilson, who saw in holding companies a form of centralized control which he considered culpable. Mr. Wilson and his fellow Democrats with "radical" Republican support, deliberately prohibited the acquisition of stock and deliberately did not prohibit the acquisition of assets because they thought that good, honest business men who were not "Wall Street gamblers" would do their merging through the tangible and forthright purchase of assests, whereas the "tricky Wall Street manipulator" would be likely to show his cloven hoof by arranging his mergers through the "shifty and watery" exchange of stock.

The Clayton Act has not succeeded in preventing the control of a maximum of capital with a minimum of investment, although it has made merging-for-merging's sake more difficult and less profitable. It can always be avoided, however, (as Bethlehem-Youngstown and New York-Vacuum are avoiding it) by the purchase of assets instead of the purchase of stock.

Of the two acts, therefore, the Sherman is much more fundamental although the Clayton is much more likely to apply. There seems a certain tendency to conclude that because *trust-busting* is not at the moment a major political issue, therefore anti-trust legislation is not as operative as in the days of Roosevelt and of Taft. But no conclusion could be more mistaken. There is today less tumult and shouting concerning the trust problem, partly because few of our contemporary corporations can be summed up in terms of one extremely unpopular individual and partly because most of the larger corporations whose consolidating activities might be open to question have at their disposal legal advisers to tell them what is or is not permissible. Many a prospective merger has no doubt been abandoned on advice of counsel without ever having reached the stage of public announcement. It is true that business men themselves seem to know little, and the general public nothing, of the real character of anti-trust legislation. Because William Fox (who for a long time operated without much regard to legal advice) bought Loew stock (not assets), he incurred (and bequeathed to the present Fox management) a Clayton Act prosecution of an extremely embarrassing nature. And when newspapers report the purchase of assets as an exchange of stock (because the purchasing company usually makes a stock payment) they are, strictly speaking, reporting almost every merger as an exceedingly illegal transaction. But the Sherman Act is as much alive today as on the day of its passage. It has been, and it continues to be, an influence of major importance in restricting any tendency toward monopoly. Many of our basic industries are already controlled by a very small number of very large corporations. Against the possibility that the small number shall shrink to one and that a single large corporation should become all-inclusive, the Sherman Act, for better or worse, is the major guarantee.

Finally, it is interesting that many business thinkers now believe that the Sherman Act has been a strong influence in promoting U. S. industrial development with a resultant success exactly contrary to Europe's unhappy experience with cartels. There is even a rumor that certain powerful Germans, disgusted with cartelization, are pondering the merits of a Sherman Act for Germany.

There are bonds that bind and—
Bonds that set you free!



LET'S say you're on a motor trip—miles from home. Suddenly from around a curve tears a big Sedan doing 70—maybe 80. You swerve—and escape by a hair's breadth, but . . . That man walking on your side of the road! Fortunately, you don't hit him squarely—he's apparently only cut and bruised. If you carry adequate Liability Insurance with a good, reliable company, you are protected against financial loss from claims, *but*—

While lunching at a nearby hotel, you are also served with a Writ of Attachment on which the ink is scarcely dry. The injured man has made use of the local sheriff to protect his interests before you've a chance to leave town. Your car is "attached" and as effectively "tied-up" as though he'd put a gigantic ball and chain on it. What to do?

If Ætna-ized, your Ætna Service Certificate will identify and introduce you to the local Ætna Agent. (There are 20,000 of them from Coast to Coast!) He will promptly arrange for an Ætna Release of Attachment Bond, thus restoring to you full possession of your car—*without a cent of extra cost to you!*

●

Ætna is a multiple line organization, writing bonds as well as insurance. It takes care of its automobile policyholders' needs, not only from coast to coast but *in Europe*, too. It pays to be Ætna-ized! Let the Ætna-izer in your community tell you the whole story.

●

Ætna Casualty & Surety Company . . . . Ætna Life Insurance Company . . . . Standard Fire Insurance Company . . . . Automobile Insurance Company of Hartford, Connecticut.

BURLINGAME
PUBLIC
LIB.

ÆTNA

ÆTNA-IZE

SEE THE ÆTNA-IZER IN YOUR COMMUNITY—HE IS A MAN WORTH KNOWING

Rittase

Carbon black, the soot of natural gas, goes down a conveyor belt to meet rubber in the vast Banbury Mixer, a mechanically churning cauldron which costs some $1,000,000. Until 1915, carbon black was used to make tires black. Its concomitant, and far more important, effect of toughening rubber has made tires of 30,000 mileage possible. A pound or so of carbon black adds 10,000 miles to the life of a tire. (The same amount added to eight gallons of oil makes enough ink to print 100 copies of an average novel.) Seventy per cent of the U. S. consumption of carbon black goes into the rubber industry, 20 per cent into printing ink, and the rest into such things as shoe polish and phonograph records. Great producer and pioneer in the carbon black industry is Godfrey L. Cabot of Harvard and Boston. In his plant, the world's largest, at Pampa, Texas, 100,000 pounds of carbon black are made each day from 58,000,000 cubic feet of gas. Of that great family of Cabot chemists (Samuel Cabot, Inc., father and son), Godfrey Cabot knows well the smells of the laboratory and the soot of his factories, and he counts as a great compliment a remark overheard among the men in a West Virginia gas field; "Hell, Cabot's just as common as anyone."

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for money with which to buy rubber for next spring's tires. Mr. Leroy's function is to keep Goodyear away from the banks. In 1921, Goodyear owed the banks $40,000,000. Today Goodyear has $40,000,000 in cash or equivalent and owes the banks not a cent. The budget control is severe. Mr. Leroy must be able to say that to pay for $1,000,000 of rubber in December, he will have on hand the necessary $1,000,000.

But let it not be supposed that Goodyear is run by a Soviet. Goodyear has a leader who has as good a claim to leadership as any man in the industry and who is almost in his own person the American dirigible industry: Paul W. Litchfield.

There is no physical connection between Goodyear and Zeppelins, since the amount of rubber used in Zeppelins is negligible. The connection is, for one thing, personal. Mr. Litchfield came from a family of New England sea folk, and in the ships of the air he feels the continuance of a great tradition. Nothing so delights him as the sight of two or three blimps settling like plump pigeons into the backyard of his Akron home. But the Goodyear-Zeppelin connection is even more noticeably psychological, for it symbolizes the Goodyear keynote: Transportation. Mr. Litchfield first sounded this note when he built with his own hand the first Goodyear automobile tire. That was in 1900, five years before Firestone got his first Ford order and the year that the Seiberlings employed Litchfield, a M. I. T. graduate, to be factory manager of their "tires-for-bicycles-built-for-two" business. Thus Mr. Litchfield has been in auto tires literally as long as anyone. He became Goodyear's president four years ago and was given the additional title of chairman this year. His fifty-fifth year of life and thirtieth with Goodyear finds Goodyear expanding in spite of bad times. Sales, of course, will suffer and profits will be considerably less than last year's $20,000,000 ($12 per share). Nevertheless, Goodyear is believed to have earned a good part of its common $5.00 dividend during the first six months.

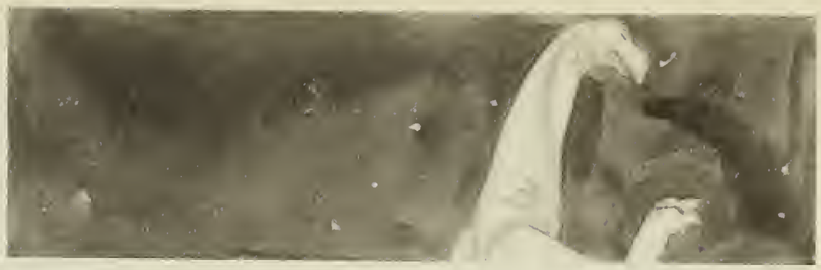
In July a telephone conversation between Mr. Slusser in Akron and a contractor in Buenos Aires started a $4,000,000 plant a-building in the Argentine—a plant to make tires behind tariff walls. This plant follows the building of a much larger one last year at Gadsden, Alabama, in addition to which there are plants in Los Angeles, England, and Australia (Goodyear is No. 1 in Australia, second only to Dunlop in England). On the anniversary of his employment by Goodyear, Mr. Litchfield was in Europe. When he got back in August he found that the Zeppelin he was building had twelve rings up instead of six when he left.

Progressive on the side of employees, aggressive in management, well-fixed as to cash, efficient in production and with great public acceptance for its essential product, Goodyear faces its future with an understandable enthusiasm.

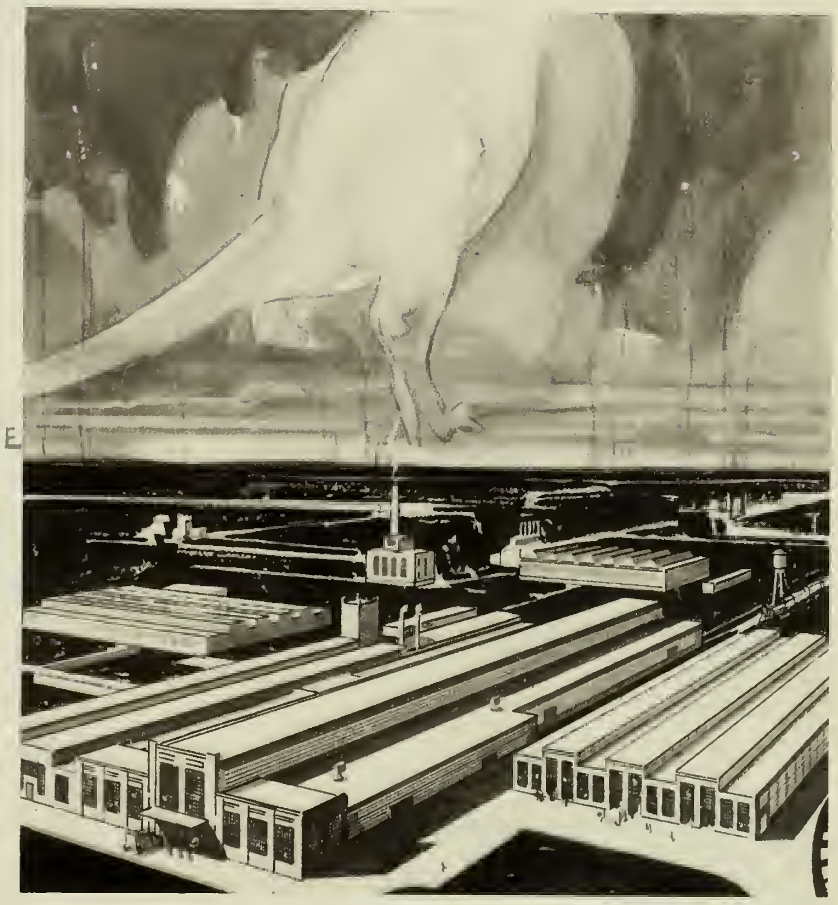
II—Goodrich

Old Humphrey O'Sullivan was born nearly eighty years ago in Skibereen, County Cork, Ireland, and learned the printer's trade. He studied oratory and literature and came to Yonkers, N. Y. But at Lawrence, Massachusetts, he left printing and went into shoes with his brother. They paid themselves each $15 a week salary and fifteen cents a week for spending money. They kept up this dreary salary discipline for twenty-one years, putting "back into the business every damned dollar," except $30.30 a week. During this period they married patient, loving wives.

A Dr. Savory, who apparently had foot trouble, desired to have his shoes coated with rubber, and the O'Sullivans gave him a shoe with corrugated soles cemented and screwed on. After supplying Dr. Savory for several years, the O'Sullivans heard that a Boston firm was making shoes with rubber heels.



IN THE DEMISE OF THE DINOSAUR LIES A WARNING TO INDUSTRY



BURLINGAME
PUBLIC
LIB.

The lumbering incompetence of pre-historic dinosaurs disqualified them for survival against the competition of more capable creatures . . . unable to meet the flux of conditions in an ever-changing world, they perished.

A modern counterpart is found in industrial plants that have remained stationary while the world has moved forward.

To make real progress manufacturers must modernize or build anew . . . coordinate the producing abilities of their plants with present-day demands . . . lower prices must be met with savings in the cost of production . . . savings that originate in good design before a single shovel is turned. Good engineering, worth many times its cost, is the first step to profits and one of lasting consequence.

In these modernizing operations, Austin Engineers become an important factor. They bring to you the most up-to-the-minute ideas and a wide experience which can be advantageously applied to any project you may contemplate. Wherever your building operations may be located you will find an Austin Organization in the field. There are 16 Austin Offices, from coast to coast, ready to serve you.

THE AUSTIN COMPANY

THE
AUSTIN
METHOD

The Austin Method of Undivided Responsibility

Design, construction and building equipment . . . separate responsibilities ordinarily . . . become one unified responsibility under The Austin Method. One nation-wide organization handles the complete project under one contract which specifically guarantees in advance, total cost, time of completion with bonus and penalty clause if desired; and high quality of materials and workmanship.

ENGINEERS AND BUILDERS . . . CLEVELAND

Rittase

The vulcanization of tubes now takes place in a period of only seven minutes. Here in the Goodyear factory is a battery of vulcanizers operated by an automatic timing device. This development is one example of greatly increased mechanical efficiency in recent years.

PUBLIC LIB.

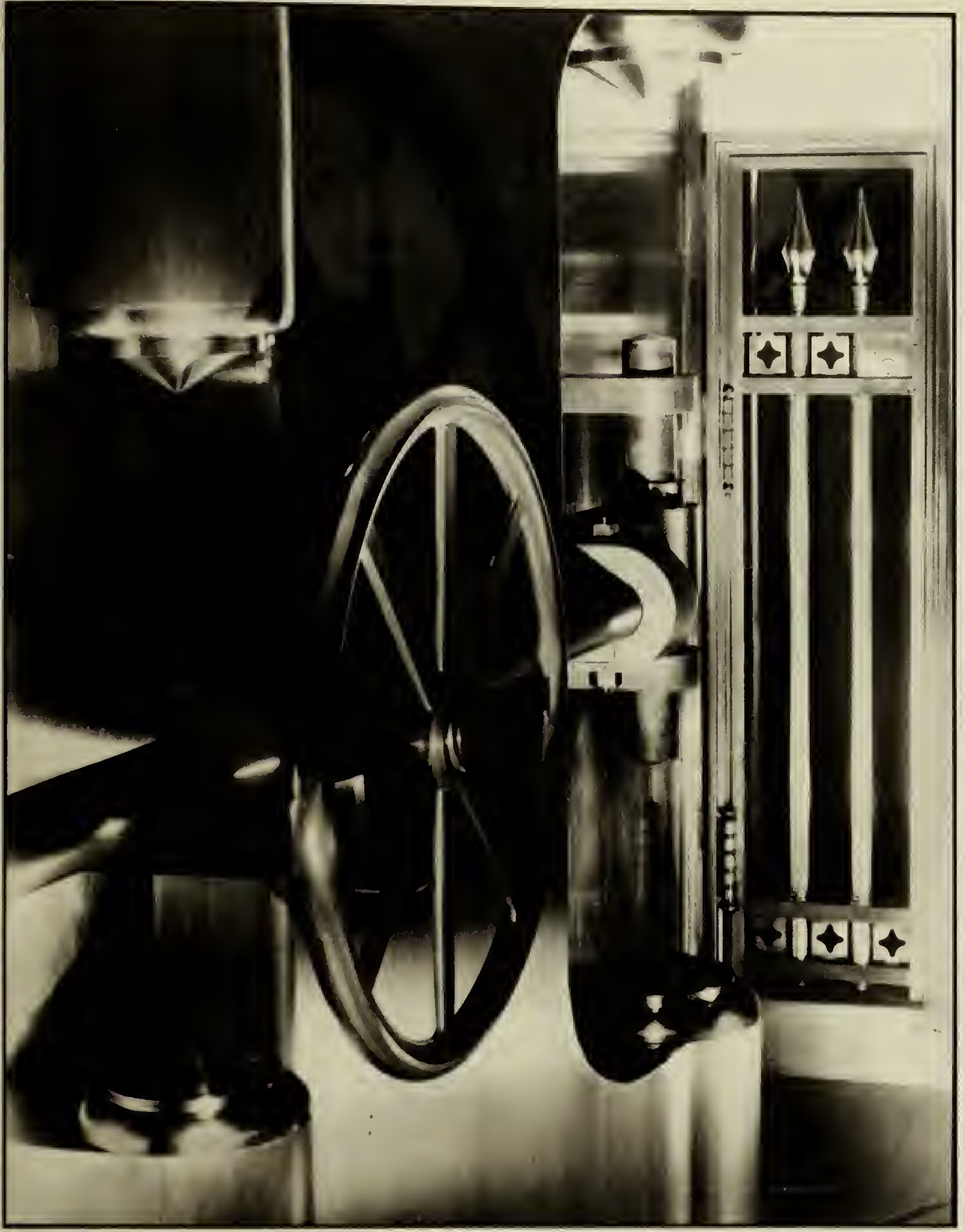
Upon examination, the O'Sullivans decided that the rubber was so soft that the wearer was really walking on the metal screws. With an idea to sink screws lower, Humphrey O'Sullivan got the Boston Belting Co. to manufacture for him. The other O'Sullivan would have nothing to do with the silly business, but Humphrey made $32,000 net his first year. Then along came the B. F. Goodrich Co. with a better rubber compound, and ever since Goodrich has made O'Sullivan's Heels. That was about 1900. Since then those heels have numbered millions—yet a tiny part of the Goodrich business.

In 1905 a husky mining engineer who had rowed on the St. Paul's School crew and had just graduated from Harvard found himself jobless in Colorado. The mine he worked for failed. Penniless, James D. Tew beat his way back to his home near Akron and took a job with Goodrich. This might seem a natural thing to do, since his father, who married B. F. Goodrich's sister, was an original stockholder in the company, which began in 1870 as a partnership, Goodrich, Tew & Co. But Tew's father had retired, and anyway James Tew was quite sure he did not want to go into the Akron rubber business. However, even a Harvard man must eat, and even an elementary knowledge of chemistry could be of some use to rubber at a time when nobody knew much about it. Presently James Tew asked for a raise. Presently he got into an argument and went over to The Diamond Rubber Co. In 1912 Goodrich bought Diamond, becoming thereby the biggest tire-maker for four years, and James Tew was back in Goodrich. Since then he has liked it and Goodrich without Tew would seem as strange as Rubber without Goodrich.

The line of O'Sullivan's Heels out of Ireland through Boston and the line of James Tew out of Harvard through Akron intersect at the hub of a great industrial policy. Goodrich makes tires—some 10,000,000 a year. On several occasions it has led the way in tires; its Silvertown Cord was one of the few tire developments which the public really appreciated, and it is definitely the leader today in airplane tires. But Goodrich also makes 32,000 *different* rubber articles besides. It makes garden hose and bathing caps, O'Sullivan's Heels and baby pants, invisible parts of automobiles and balls of all colors. It coined the word "zipper," makes footwear of all kinds, golf balls and linings for tanks, flower pots, hat racks, fountain pen sacs, life-belts, razor straps, shaving brushes, dog collars, corset ribs, rolls for printing presses, hot water bottles, doctors' gloves—rubber that is soft as silk or hard as rock. The extent of this infinite variety is faintly understood from the fact that Goodrich requires 1500 different formulae for treatment of rubber in order to produce these articles. Obviously Goodrich must be as much of an idea-factory as a rubber factory. To the casual observer this makes Goodrich much the most interesting plant at Akron. In its "specialty" division, there is an appearance of little tricks of magic being performed in every corner. What with toy balloons blowing up and baskets full of gaudy bath caps and great hunks of rubber sponge for you to walk over and white powder everywhere (to keep rubber from sticking) there is, despite the solemn faces and flying hands of workers, a sense of carnival.

But President Tew is no showman. In his paneled, soundless office the variety show becomes analysis. In the top right hand drawer of his desk is a little black book, bound in leather, not rubber. In this book the entire rubber business is reduced to figures, a code which only a man of his practical factory experience could properly interpret. To President Tew infinite variety of product is a business policy of which he is the chief exponent and upon which he counts to insure the interest on his bonds and the dividends on his stock.

Tires made rubber manufacturing a big thing. But also a financially distorted thing. Take the Goodrich case. For a generation before 1910 it had become, slowly, the outstanding manufacturer of miscellaneous rubber goods, but it was by no means a huge affair. Then came tires. In 1912 Goodrich was recapitalized with $15,000,000 of preferred and 300,000 shares of common. It then absorbed Diamond and doubled its capitalization. Here nearly twenty years ago was a business with a net worth based on market values in excess of $72,000,000. It is a sad commentary on the effect of tires on rubber that today the market net worth of this excellent company is only about $65,000,000 in spite of the fact that stockholders or employees have contributed about $40,000,000 of additional money or property.



★

The **FIRST**
NATIONAL BANK *of*
BOSTON
1784 – 1930

★

The unceasing improvement of banking machinery and banking methods is exemplified by THE FIRST NATIONAL BANK *of* BOSTON. *As one of America's outstanding national and international financial institutions this bank solicits your business both at home and abroad.*

Foreign Branches: BUENOS AIRES, ARGENTINA; HAVANA, SANTIAGO, CIENFUEGOS, AND SANCTI SPIRITUS, CUBA. *European Representatives*: LONDON, PARIS, BERLIN. *Domestic and Foreign Correspondents*: 22,000 BANKS THROUGHOUT THE WORLD.

This is what people mean by profitless prosperity. In the case of tires it has been the prosperity of one year canceled by the emergencies of the next.

Thus there is obviously good reason for President Tew's policy. Remembering that his company is not one of the hundreds which failed, but on the contrary has grown through fiercest competition to gianthood and has never encountered such grief as Goodyear's debacle of 1921—remembering all this, the presumption of doubt might well be against tires as the be-all of rubber manufacturing. President Tew has no intention of letting his tire business slip away. But he does not intend to be driven into a desperate corner by reason of having to sell tires or nothing. Tires account for 55 per cent of his business, so Goodrich is primarily a tire manufacturer. But 55 per cent is not 100 per cent nor yet 90 per cent. The remaining 45 per cent represents some $75,000,000 of annual business—business of every sort, supplying thousands of different kinds of demands, well-balanced over the seasons and not subject to the rise or fall of automobiles. This business gives him today a comfortable balance to tires and presents possibilities of expansion.

Furthermore, this policy results in industrial progress apart from profit and loss. Only this year, for example, Goodrich announced a scientific marvel—the plating of rubber on metal by Vulcalock process.

Whether ultimately the policy will result in steady profits remains to be seen, for, as we have said, the rubber industry is only just emerging from its hectic years. So far in 1930 the Goodrich results are not satisfactory, but basically the Goodrich position is good. It took advantage of the bull market to obtain money and pay Wall Street its bank loans. Its name is famous and connotes fair dealing. Its management in present form dates really from about 1927, since when there has been further expansion, with consequent changes in personnel. There is now a vice president in charge of each major division, from purchasing and production straight through to consumer: Messrs. Graham (tires), Newhall (footwear), Connors (mechanical goods), Griffith (sundries). These are the men who under President Tew make good the slogan that Goodrich can make whatever is made of rubber.

III—Firestone

We have already suggested that the principal reasons for lack of steady profits in the tire business in the past are not likely to apply in the next few years. Ample supply of rubber now lessens the uncertainty concerning the price thereof. Elimination of hundreds of small companies by no means eliminates competition, but does leave the responsibility for tire prices in stronger hands. And these stronger hands are now represented by management which is not only more mature, but which is also more responsible than previously to stockholders.

But because the tire business has outgrown the troubles of youth does not mean that it is without troubles today. It has a most serious trouble indeed, and that is sales trouble. To the outsider it would seem that the tire industry is engaged in an extremely doggy dog fight. Competition is not only intense, but even bitter.

Space prohibits any adequate description of the present competitive situation. We will simply record one development. And we do this in our Firestone note because Firestone led the way.

When in 1926 Mr. Firestone wrote that captivating biography, *Men and Rubber*, he said he would never go into the retail business. That consistency is a virtue of small minds was never better proved than when two years later Mr. Firestone went into it with a bang. Now dotted throughout the land are Firestone One-Stop Master Service Stations, painted light blue and attractive to the motorist who had been accustomed to the corner lot mess that was called a filling station. In building these stations Mr. Firestone's plan was to take dealers into partnership, Firestone owning 51 per cent and the local dealer 49 per cent of the stock. The merchandising idea was obvious but nevertheless brilliant. Selling gas, oil, and other service, the stations would not only cut down tire distribution overhead, but would also attract new buyers for Firestone tires. The difficulties are also obvious. It is easy to build a finer station than the local trade can support. And it is difficult to find dealers with enough ability to run them. Nevertheless, what with the mail order houses selling cheap tires, and what with the general ferocity of competition and the inefficiency of the old-time tire-dealer, something had to be done, and Mr. Firestone did it on a grand scale.

That he was right in principle, although possibly too lavish in detail, seems to be the consensus of opinion. At any rate, he has the flattery of competition. Worked out on somewhat different lines, Goodrich now has 110 handsome tire stores, some of them being service stations, others developing miscellaneous rubber sales in connection with sales of other household goods. And it is now believed that Goodyear has "taken over" more of its dealers than any other company. In other words, the big companies have evidently decided that they must see their tires through from production to consumer.

This necessity was enhanced when last month Standard Oil of New Jersey announced that it would sell tires in its filling stations. S. O. N. J. will have Goodrich make a special brand for this sale, just as Goodyear has long made special tires for Sears, Roebuck. All of which is definitely characteristic of one of the biggest questions in modern business—will the manufacturer control the chain outlets, or will the chain outlets control the manufacturer? And also, in this case, there is presented the curious (but, of course, unlikely) alternative: will gas control tires, or will tires control gas?

Tire sales divide themselves into two parts: "original equipment," i. e., tires sold to automobile manufacturers and "replacement," i. e., sales to the public. Over the last five years the former has averaged 28 per cent, and upon this business no real money is made. (The big orders do, of course, help to reduce factory costs per unit.) On the other 72 per cent the cost of distribution has been enormous, probably 40 per cent of the retail cost. This is not only a challenge to distribution efficiency, but also an invitation to competition. The future prosperity of the tire companies is likely to depend, more than anything else, upon the degree of sanity exercised in the inevitable competitive battle.

Incidentally, it is amusing to note that the prize in this battle is not the American female, who is supposed to do most commodity buying, but the American male. For the woman, it seems, makes the man pay for the tires, desiring that tire expense shall not be confused with her household and personal budget. But, of course, if fierce competition should make tires an object of continual bargain-hunting, then the female, entering intimately upon the scene, might prove, so far as tire manufacturers are concerned, deadlier than the male.

IV—U. S. Rubber Co.

At a meeting of the board of directors of the U. S. Rubber Co. held Tuesday afternoon, January 15, 1929, in the company's building near Columbus Circle, New York, Francis Breese Davis Jr. was elected a director, member of the executive committee, chairman of the board of directors, and president of the U. S. Rubber Co. He knew nothing more about rubber than any assiduous, intelligent engineer-business man should know. The company had no need of knowledge; it needed wisdom.

As a storehouse of knowledge, U. S. may perhaps claim preëminence. One of the many companies which were put together to form U. S. in 1892 had been the first to vulcanize rubber on a commercial scale, it having been licensed in 1842 by Mr. Goodyear. So the only existing portrait of Mr. Goodyear (see page 78) hangs above Mr. Goodyear's desk in the lobby of U. S.'s executive offices. U. S. further claims to have been the first to make clincher tires, the first to make automobile tires (1895, when the automobile was a joke), first to manufacture cord tires, etc., etc.

Its knowledge extends to every use of rubber. While Tew of Goodrich is the prime proponent of the diversification, U. S. is actually more diversified, only 35 per cent of its business being tires and it doing some $100,000,000 worth of non-tire manufacturing against Goodrich's $75,000,000. It is the only company which makes a complete golf ball (Goodrich manufactures golf ball stuffings). Today U. S. laboratories pipe knowledge through the company as never before. Marvelous and of an importance which cannot yet be estimated is its develop-

[*Continued on page 143*]

A night view of a modern Airport, illuminated with Westinghouse Airport Lighting Equipment

DAYLIGHT LANDINGS *for the* MIDNIGHT MAIL

Westinghouse
Electrification
Appliances Apparatus
Wiring
W

Tune in the Westinghouse Salute over WJZ and the coast-to-coast network, every Tuesday evening.

The Mail's coming in! Out of the dark stillness far above comes a faint hum, swelling into a rhythmical throb that quickens the blood with the insidious power of a tom-tom. A random flash from a wandering beacon picks up the glint of a silver wing. The throbbing ceases — then a golden torrent of light suddenly pours forth across the broad field, flooding it with a glare-free, shadowless brilliance. Midnight is turned magically to noon—and the midnight mail glides gracefully down to a daylight landing.

On hundreds of airports throughout the world today, this scene is all in the day's work. And in many outstanding examples, such as the new municipal field at Newark, the lighting equipment that makes it possible is by Westinghouse — a part of electricity's contribution to the new industry that is to become the tool of all industries.

On many a desolate, inaccessible mountain-top, beacons are kept unfailingly alive by Westinghouse individual electric plants. And throughout every step of aircraft and engine manufacture today you will find Westinghouse motors and Westinghouse electrical equipment showing the way to low cost, standardized production.

Westinghouse service to aviation is typical of its service throughout modern industry, wherever there is need for specialized knowledge in the electrical engineering field.

Westinghouse

A.T.&T.: Its Stock—*Continued*

very much in the nature of assessments, because, from this same standpoint, a share of A. T. & T. stock is always dealt in at its par value and the stockholders were simply being requested to make a further monetary contribution to their corporation. From the investor's standpoint, however, the fact that Wall Street values A. T. & T. stock not at $100 but at $220 of course means that the A. T. & T. stockholder is given the privilege of adding to his holdings at a price very much below the market and that with the exercise of every such privilege his return on his investment is increasing over its original 4 per cent.

The question of how much more than 4 per cent the Telephone investor gets by reason of his frequent opportunities to make an additional purchase at 9 per cent is somewhat obscured by the fact that what might be termed the speculative position on A. T. & T. is a good deal more concerned with Telephone earnings than with telephone stock subscriptions. On the other hand, inasmuch as the exercise of these opportunities to buy stock at par is a very important item in the return which the telephone investors secure, it is advisable to consider, very briefly, how much the investor should value the subscription feature of his stock.

Suppose that the investor with 100 shares exercises his subscription rights at a one to six ratio and therefore (in even numbers) buys seventeen new shares at $100. When another one to six offering happens along, he now has 117 shares and so gets not seventeen but nineteen additional shares. If he gets a chance to keep on compounding his holdings every other year, and at the same ratio, in ten years (or five offerings) he will have bought 117 new shares at $100 and will have paid $11,700 for them. Adding his new shares to his original 100 shares (which he bought at $220 and which cost him $22,000) he will have a total of 217 shares on which he will get $9.00 a share dividends. His return will be $1,953, which is about 6 per cent on his total investment ($33,700). At the end of five offerings (ten years), therefore, the investor has a 6 per cent investment and has more than doubled his holdings. And in subsequent years both the return and the shares increase, the ratio of income to investment slowly approaching a 9 per cent millennium, which, however, it cannot quite reach even at infinity.

It should be parenthetically noted, however, that the investor with rights to buy additional shares at par can sell his right to buy new shares while retaining his old, and that this possibility opens up several more or less speculative methods of juggling rights to get the largest immediate return. The man with 100 shares at 220, for instance, could sell his 100 rights for nearly $20 each, collect some $2,000 on the sales, add to this sum his regular $900 dividend, and show for his $22,000 investment a return of $2,900 or 13 per cent. But, of course, he will always have only 100 shares and on years in which no rights are offered he will never make more than 4 per cent. Should rights worth $20 be offered every other year, and should he always sell them and bank the money, his investment would net him an average of 8.6 per cent per annum. But his number of shares does not increase, his percentage of ownership of the company decreases, and a slump in the market value of his security of course reduces the selling price of his rights. It is also possible to sell rights and to buy additional shares with the money so obtained. This system has the advantage of increasing the number of shares without increasing the capital investment; on the other hand the shares increase slowly and the speculative element of the market price again becomes prominent. On the whole, the investor who continually exercises his rights builds up his holdings so much more rapidly than by any other method that his system is not only the safest but, in the long run, probably the most profitable. And it is certainly the system recommended by the Telephone company and practiced by the majority of telephone stockholders.

• • •

It is probable, however, that a good many purchasers of Telephone stock and an even larger percentage of those who advise others to purchase Telephone stock have their eyes fixed mainly on the earnings-per-share of the Telephone company. A. T. & T. itself (as distinct from the Bell System) reported 1929 earnings of $12.67 a share. But the per share earnings of the Bell System itself were considerably larger, since most of the subsidiary companies in addition to paying A. T. & T. a dividend retained some of their earnings to put into their own surplus. If, for instance, a wholly-owned subsidiary made $10,000,000 and paid $9,000,000 in dividends, there would remain $1,000,000 which would not show in the earnings-per-share of A. T. & T. With twenty-odd companies each annually earning a surplus in excess of dividends, it is obvious that the combined surplus of the entire System would, over a period of years, run into very large figures and also that these figures would not appear in the A. T. & T. report. From this situation has arisen the theory that the Telephone company is "really" making "a lot more money" than it "shows," and the inference that in buying A. T. & T. stock one is buying a share in a great profit reservoir which will some day burst its confines and rush out in a golden flood. "The Telephone company reports $12.67," says the knowing investor, "but it actually makes at least $16, and while perhaps it could not pay more than $9.00 on $12.67, it can certainly pay more than $9.00 on $16. And the longer they keep on paying only $9.00, in dividends, the bigger the melon that we, the stockholders, will some day cut."

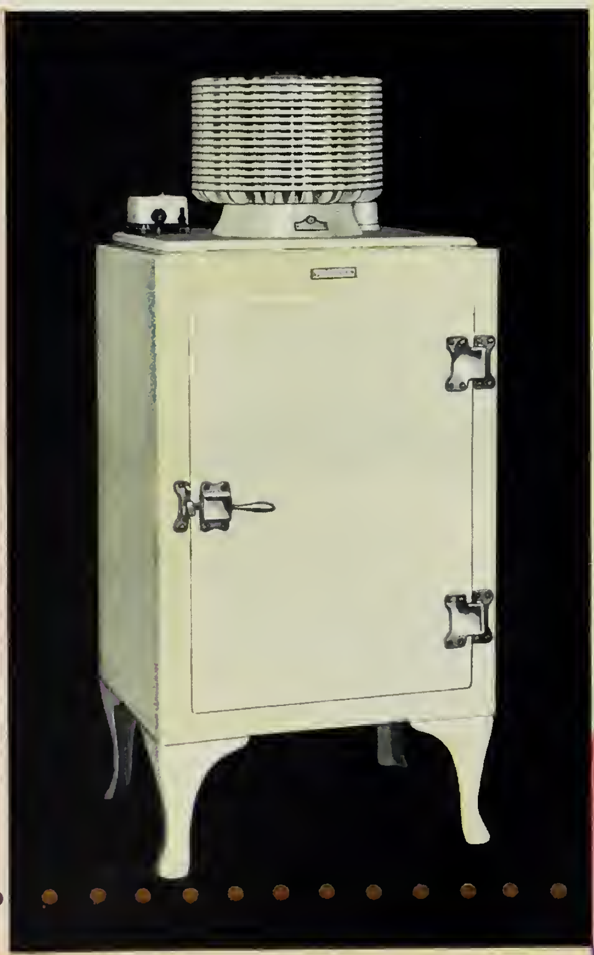
Here is certainly an interesting, but also a debatable proposition. It is, of course, true that the $12.67 reported by the Telephone company does not represent the System's earnings per share. The Telephone company does not report a System-per-share earning, and a good many statisticians have attempted to supply the omission, sometimes with rather fantastic results. On the whole, however, and allowing for the 7 per cent of the Bell System not owned by the Telephone company, the money earned by Bell companies but not paid to A. T. & T. in dividends amounts to approximately $3.00 a share. Thus the earnings of Telephone stock in 1929 did total $15.67 and the argument that the company "really" earns $16 is sufficiently sound. It might be noted, however, that there is no great mystery about all this, since the Telephone company publishes a consolidated Bell Statement from which the allegedly "excess" or "hidden" earnings can be readily calculated and since the companies (chiefly Western Electric) not completely consolidated in the System report publish their own statements from which it is possible to extract anything the Telephone company might have up its ample sleeve. Thus, for instance, the idea that the Telephone company is running up a big hidden surplus in Western Electric conflicts violently with the fact that Western Electric last year paid the Telephone company $23,500,000 out of its $27,000,000 earnings and that the total Western Electric surplus is $14,000,000, or about 3 per cent of the surplus which the consolidated Bell statement shows.

Furthermore—and this is the most vital point—the Telephone company, cheerfully conceding earnings in the neighborhood of $16 a share and religiously holding to its determination to pay only $9.00, says that it needs the difference in its surplus, that it cannot and will not pay out a nickel more in dividends, and that *anybody who thinks he could run the telephone company and pay more than $9.00 without injuring the value of the investment does not know what he is talking about.* It also adds that $16 is a very generous estimate for a very unusual year. It says that it considers that its stockholders are *at present* getting a very equitable return on their investment, and the fact that these stockholders are being well treated is conclusively shown by the fact that the Telephone company has not the slightest difficulty in raising funds by selling stock. The Telephone company did not (and could not) say that it would never pay more than $9.00 for its regular dividend, but it certainly left the strongest of inferences that since, under the present conditions, it continues to attract additional capital sufficient for its growth, it has not the least intention of giving its stockholders more than they at present are receiving. If, then, it is pointed out that a security with virtually a fixed yield is essentially a bond or a preferred stock, whether it is called a common stock or not, the Telephone company enthusiastically agrees with this analysis and says it is more

[*Continued on page 112*]

FOR 15 YEARS GENERAL ELECTRIC SAID... NO

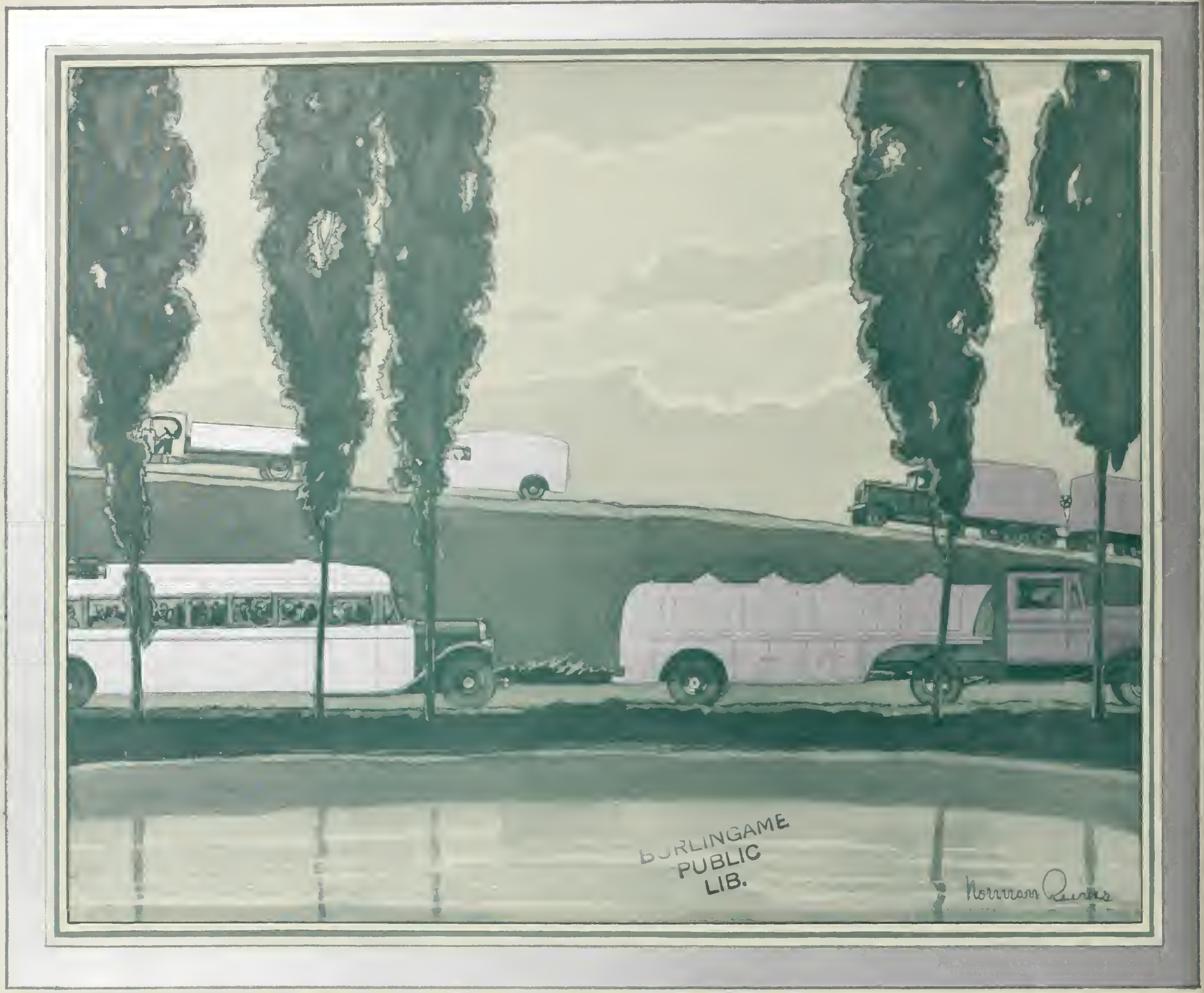
For fifteen years they worked behind closed curtains — General Electric pioneers! • Building refrigerators...destroying them...building more refrigerators...destroying them. • Behind them stood the entire resources — the vast Research Laboratories of General Electric — the combined genius, scientific knowledge and craftsmanship of General Electric engineers. • Discovery after discovery marked their progress. Each year bore witness to new refinements of construction and design. Each year a better refrigerator — sturdier, quieter, more durable, more efficient, more economical in operation. • For fifteen years they pioneered — and perfected. Building refrigerators which you and I would gladly have bought — but which General Electric steadfastly refused to sell. • Today, if you should visit in Schenectady, New York, the birthplace of General Electric Refrigerators, you would discover a long, white row of early models standing there. Not tombstones of the ghostly ancestors of today's refrigerators — but monuments to a General Electric ideal! • Today, when you visit the display rooms of any General Electric Refrigerator dealer, you will see for yourself the radiant descendant of these fifteen generations of refrigerators — a refrigerator with a mechanism so extraordinarily efficient, so utterly reliable, that General Electric has been able to SEAL UP EVERY MOVING PART WITH WALLS OF STEEL, and say to you, "This refrigerator will serve you faithfully through the years. The name — the approval — the unqualified endorsement of General Electric are upon it!"



TODAY GENERAL ELECTRIC SAYS • • • • • • • • • • • • • • YES

GENERAL ELECTRIC

ALL-STEEL REFRIGERATOR



BURLINGAME
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Soon—nearly all Trucks and Buses will have Aluminum Bodies

Business on wheels has found an escape from the burden of excess dead-weight. Built of the strong Alloys of Alcoa Aluminum, truck and bus bodies that are 1,000 to 6,600 lbs. lighter now speed over the highways.

Using an aluminum truck body, a coal dealer is carrying 1,800 lbs. more coal every trip—without added horse power. A building material manufacturer is adding 20 tons per day more pay-load to each truck and trailer. Only 1/3 as heavy as iron or steel, the light, strong Alloys of Alcoa Aluminum reduce the weight of buses 20 to 30%.

In every phase of transportation these Alloys are bringing similar weight savings. Today you may ride in an aluminum train, for several railroads operate trains with cars built largely of Alcoa Aluminum Alloys. All-aluminum planes carrying passengers, merchandise, and mail, reduce coast to coast trips to 48 hours. Aluminum trolley cars operate on regular schedules in city and suburbs.

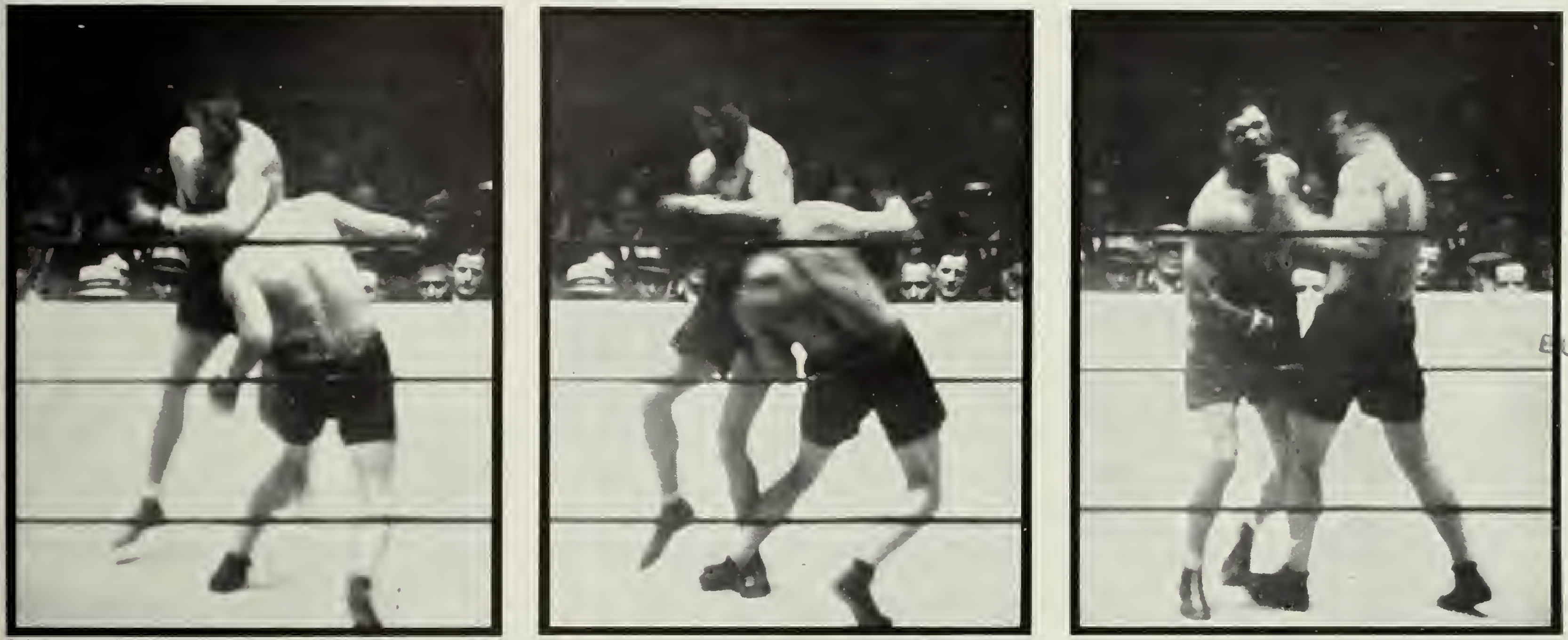
And in manufacturing too, in those thousands of cases where light weight and strength are factors, these Alloys are being used to replace heavy old-fashioned metals.

Every representative of Aluminum Company of America has a wealth of information on the weight saving possibilities of Alcoa Aluminum. Invitation is given to all to draw freely on this data. Address ALUMINUM COMPANY *of* AMERICA; 2402 Oliver Building, PITTSBURGH, PENNSYLVANIA.

ALCOA ALUMINUM

such pictures, frankly pinches pennies. Mr. Ochs will not allow him to send a Wide World photographer or a *Times'* reporter anywhere by the latest means of locomotion.

Probing into *Times'* psychology, one comes upon a stratum of belief that Mr. Ochs does not wish ever to place an employee in the position of feeling that it is his journalistic duty, his duty to Mr. Ochs, to fly when this might be against the employee's better judgment. Here is an honorable distinction. When necessary, a plane manned by non-*Times'* men is chartered by Wide World. But as a result of discreet economy, this organization has the record of being the only one of the old guard to show a tiny profit.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THE NEWS CINEMA PROVES THE SHARKEY-SCHMELING FOUL

Sharkey, his back to the camera, starts that wild left hook.

The blow lands, unmistakably low, but Schmeling does not yet show pain.

Schmeling as he feels the blow. The camera was quicker than his reaction.

BURLINGAME PUBLIC LIB.

Picture costs, picture prices

Getting back to the old guard, we find that Acme is proud of scooping the *Bremen* (not the liner but the airplane which first flew the Atlantic from Europe to America) at a cost of $18,000. Of this Acme paid $15,000, and other services with whom the scoop was "split," the rest. A plane to fly pictures of Colonel Lindbergh's crash in Mexico to St. Louis cost Acme $1,700.

A consensus of statements from newspicture executives is that International, P. & A., and Acme each spends approximately $500,000 per year and recoups about $250,000. By sagaciously exploiting its unique position A. P. (which spends $750,000) breaks even.

On the operating side P. & A., typical of the old guard, employs at Manhattan headquarters thirty salespeople, over 100 darkroom processors, a newspicture editorial staff of eight, and in the field eighty staff photographers plus 3,000 correspondents. This force is responsible for snapping 600,000 different pictures per year in the U. S. and Europe and selling some 530,000 prints. Of every hundred photographs submitted to a newspicture editorial staff, ninety are rejected. Efforts to peddle the selected ten result in the sale of one.

Scoopers and scooped

In explaining why he failed to arrive ahead of competition with pictures of the Dempsey-Gibbons fisticuffing, a certain crestfallen newspicture man charged that his Wide World rival had poured water in the fuel tank of his plane. "Wh-at! That guy?" exploded the executive to whom this excuse was offered. "He watered your gas? Not a chance. He hasn't got the guts."

Probably this was gross libel. If the slandered Wide World man had not been up to the gutty standards of the game, he would never have been sent out on so important an assignment. In the long run, members of the Big Five know that it does not pay to water each other's gas, slash each other's tires, or destroy each other's plates, but the profession from its resourceful executives down is somewhat piratical. On the other hand, newspicture men must be sufficiently suave to handle John D. Rockefeller Sr. and J. P. Morgan.

Although his aversion to newspicture men is great, Mr. Morgan's heart is not of stone. He once relented at the half-sobbed appeal of a young photographer: "Sir, it means so little to you, but it means my job to me!"

Years ago the boys made their peace with John D. Jr. He was afraid that his daughter, Abbe, might be kidnapped. He thought that publication of her picture might aid kidnappers to spot her. Would the boys promise not to picture his child if he would pose for them? They promised, and the promise was kept. Messrs. Rockefeller, Edison, and Ford are the three older men whom Americans like most to see in newspictures. Young men: Charles Augustus Lindbergh Sr.; Edward, Prince of Wales; Babe Ruth. Try to name a woman who equals in American picture popularity any one of these six men.

Pictures of babies and what the profession calls "cheesecake pictures" (shots with female leg appeal) are the subject of much argument. Some editors hold that a baby will sell more papers than the best cheesecake ever made, but "the baby sure has got to be good."

From the day of Charles Augustus Lindbergh Jr.'s birth, there was a newspicture price of $1,000 on his baby head. As an occasional contributor to the New York *Times*, Colonel Lindbergh did the handsome thing, snapped his son himself, and gave the negative first to Wide World, a few minutes afterwards to several other papers. Mr. Ochs responded handsomely by printing this picture not as the front-page stuff it was, but on the *Times* inside page No. 3. Other papers front-paged the "Eaglet."

Faked or composite newspictures are rare. They explain, however, certain mysteries. Just as the late Rudolph Valentino's funeral was about to begin, Manhattan news-venders appeared with copies of the *Graphic* picturing the ceremony. This miracle had been worked the night before by that

International

OVERTURE

Miss Evelyn Nesbit, when she was the toast of New York at Rector's and Sherry's. Most tycoons over sixty still remember wistfully how sweet, how beautiful, how unfortunate she was.

most enterprising executive newspicture editor, Frank Mallin of the *Graphic*. Through the coöperation of the undertaker, Frank E. Campbell, a dress rehearsal was photographed and palmed off as the original.

Science and newspictures: telephoto

You or anyone else can walk into the telephoto station at New York, Boston, Cleveland, Atlanta, Chicago, St. Louis, Los Angeles, or San Francisco and send simultaneously to all the other stations for $105 a picture of anything that can be photographed. Obviously telephoto is the greatest boon which science has conferred on newspictures.

Today the picture race is only to the nearest telephoto station. If two or more newspicturemen arrive neck and neck, they find themselves confronted by a sort of teller's window. The American Telephone & Telegraph Co. will send first that picture which is first through the window.

In Manhattan the A. T. & T.'s mild Mr. Tuggey recalls that one evening six masked men with drawn revolvers lined up on one side of his window, and a little later six similar gangsters representing another firm took the other side. "I was somewhat perturbed," says Mr. Tuggey, but fortunately the men with pictures to send did not arrive neck and neck. Indeed, they seldom do. The winner of that particular race dashed in so far ahead of his rivals that the twelve gangsters merely served as a sort of board of umpires while the scoop was slotted.

The ordinary private or commercial user of telephoto may be agreeably surprised to learn that he can send a typewritten page of 900 words by telephoto to all stations or to any one at rates cheaper for this volume of wordage than by telegraph. Brookmire Economic Service of New York is one concern which telephotos a weekly bulletin to San Francisco for printing and mailing there to western clients. Another arrestingly practical use of telephoto is to correct advertising proofs at transcontinental range.

Imagine an electric eye horizontally scanning a picture at New York (as your eye scans a book, line by line) and transforming its impressions of blackness, grayness, whiteness to a light valve in San Francisco which records the message in modulated light as a line of varying density on a sensitized film. This process is repeated with many parallel lines, so minutely fine and so close together that they blend into a well nigh perfect picture. That is all there is to the telephoto, except more than twenty years of research costing millions of dollars. The principle of scanning was clear from the first. But to send telephotos 3,000 miles with only *two* wires so that an ordinary telephone line could be used meant grief—Great Grief!

Acme

MR. FORD WITH "TIM AND TERRY"

The public prefers new pictures of people they have seen before. A picture of the queerest Oriental potentate on his outlandish throne is infinitely harder to sell than this homely snap.

International

CARICATURE

A recent photograph of Mr. Thaw and his divorced Evelyn.

International

"BOLONEY"

The Democratic candidate, his campaign manager, and Tammany Boss William F. Kenny, dining at Palm Beach, Florida.

"ADVERTISING *is the life-giving Vitamin of Modern Business*"

says JOHN G. LONSDALE

ADVERTISING CAN BE NEWS, argument, entertainment, or exclamation. The vehicle of expression depends not upon whim, but upon a shrewd analysis of the reader's motives and desires. The J. Walter Thompson Company plans advertising by combining a close study of editorial technique with a knowledge of the consumer's attitude toward a given product.

FROM THE PRINTING PRESSES of this country are daily issued and circulated nearly 40,000,000 copies of newspapers. A knowledge of circulations must be linked to the results of market surveys for advertising to have full effectiveness.

JOHN G. LONSDALE, President of the American Bankers' Association and President of the Mercantile Commerce Bank and Trust Company of St. Louis.

"ADVERTISING," *Mr. Lonsdale continues, "is the spark of vitality which contributes largely toward keeping in motion the varied units of production; the master salesman that unobtrusively enters the home of new markets and stimulates a desire for possession."*

BY pointing out the value of advertising in reaching new markets, Mr. Lonsdale calls attention to one of the functions of advertising which vitally concerns every established business.

In order that advertising may cultivate effectively these broader markets, it must be planned and placed with a thorough underlying knowledge of existing markets, and directions in which they can be extended.

The J. Walter Thompson Company has had long experience in making advertising an effective device to turn potential sales into real sales. Before actual advertising is planned, a market survey is undertaken to determine the proper selling strategy. New markets are investigated and appraised from the point of view of profitable sales volume.

This kind of methodical approach takes advertising out of the realm of "gambling on a good idea."

Collaborating in this manner with many leading enterprises, the J. Walter Thompson Company has proved the value of its thorough approach to advertising by the sales records themselves.

Two folders, entitled "Selling at Home" and "Selling Abroad," have been prepared briefly to show the scope of the services of the J. Walter Thompson Company.

Either of these folders, or both, will be sent to executives interested. Write to the New York Office and copies will be mailed promptly.

J. *Walter* Thompson *Company*

New York • Graybar Building • 420 Lexington Avenue

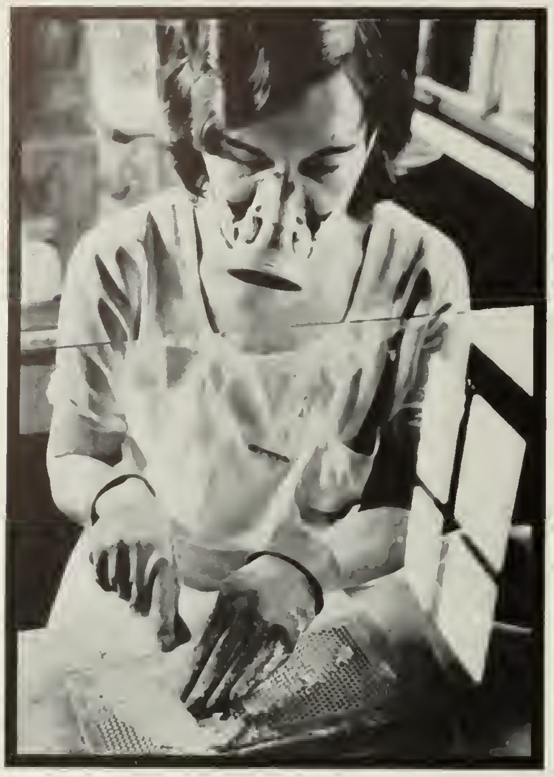
Chicago, Boston, Cincinnati, San Francisco, Los Angeles • Montreal, Canada • London, Paris, Madrid, Berlin, Stockholm, Copenhagen, Antwerp, Warsaw • Alexandria, Egypt; Port Elizabeth, South Africa • Buenos Aires, Argentine; Sao Paulo, Brazil • Bombay, India • Sydney, Melbourne, Australia • Batavia, Java

Parke-Davis—Squibb

[*Continued from page 73*]

complete and ruthless investigation is conducted in a laboratory supported by the A.M.A., through which hundreds of ambitious products pass every year. Should the marketing of a product proceed against the approval of these eminent medicos, it would proceed without being advertised in the *Journal* of the A.M.A. (aristocrat of the professional periodicals) and without being exhibited at the meetings of the A.M.A. Continued flagrance on the part of any firm would undoubtedly mean the loss of its reputation among the doctors who back the A.M.A. By way of specific example of the Council's power—a short time ago Squibb thought it had perfected a concentrate from the blueberry leaf for the treatment of diabetes. Cheaper than insulin, which costs the diabetic thirty cents to seventy-five cents a day, five pounds of this leaf could be manufactured into two grams of product. Squibb had spent $200,000 researching for it, and 40 per cent of the laboratory tests were successful, but considering the clinical results not sufficiently definite to meet the Council's requirements, discontinued its efforts to place it on the market.

The American physician is a gentleman whose ethics will not permit him to make money from any medicine, instrument, or treatment that he may have discovered. For this reason Parke, Davis, whose net profit in 1929 was $8,381,000, and Squibb, whose net for the same period was $1,546,000, are as coy as maidens on the subject of money. Poised between the profession on the one hand, their stockholders on the other, they prefer to discuss science rather than finance. Nevertheless, they are as much involved in sales management, plant efficiency, and all the usual industrial expenses for equipment and slow research as is any manufacturer of automobiles. In the laboratories where scientists reign in white gowns among smells that may be pleasant or very much otherwise, the activity is mostly invisible and noiseless, hidden in glass test tubes, retorts, microscopes, and scales. But out in the manufacturing departments the tune is a merry industrial one. The subtle serums and gland extracts, to be administered by the gram, are produced by the gallon. Several acres of Parke, Davis floor space are equipped with machines that mix, shape, compress, and coat more than a million pills a day, besides making globules, capsules, and glass ampules. At its main plant in Brooklyn, Squibb can make and fill its own tooth paste tubes on five machines at the rate of 20,000 tubes per machine per day. To achieve this mass production, the pure science of discovering and compounding pharmaceuticals has called upon capital and upon industrial and merchandizing brains.



Packing atropine sulfate paste into a mold, this girl works with her hands under glass and wears a mask because atropine is the active principle of deadly nightshade or belladonna. If inhaled it dilates the eye pupils and dries the throat. Her rubber gloves are an antiseptic precaution.

A Parke, Davis crop of smallpox vaccine being sealed in tubes by flame. The vaccine is made by cutting scarifications on the abdomen of a heifer tied to an operating table. After nine days, when the virus pus has formed, the heifer is bled to death, the pus retained. It is then refined, and these slender tubes are filled with it in vacuum.

Besides the inquisitive activities of the government and the A.M.A., Squibb and Parke, Davis are always self-consciously investigating themselves. Armies of rats, guinea pigs, monkeys, goats, dogs, even roosters have been thrown by them into the first line trenches between man and death. For instance, to test Johnnie Jones' tetanus antitoxin, a stated quantity of tetanus toxin is received from the government, which maintains a standard of efficiency for all serums on the market. Into a guinea pig plunges a needle containing a lethal dose of government toxin, plus the amount of Squibb or Parke, Davis antitoxin that ought to neutralize it. If the antitoxin is not up to strength the pig will die of tetanus—a sample from the batch that saved Johnnie was tested this way. A white rat will be strapped to a tiny operating table, receiving a slow, carefully measured injection of arsphenamine (syphilis remedy). He should live, and if he does not the drug is too strong. Frogs and cats must tolerate minimum doses of digitalis. Monkeys whose ovaries have been removed test the power of Amniotin. Anæsthetized dogs, who never wake again, are injected with adrenalin to measure its reaction on their hearts. Muscles of guinea pig utera, living for one day in warm Locke's solution through which oxygen is pumped, are fastened to needles that register their reactions to pituitrin. Rats are starved of vitamin A or B or C or D for weeks, their health temporarily broken, to see how fast the products that contain these essentials to life can bring them back to normal again. The most quixotic test is that for ergot, an important drug in obstetrics, the standard of which is that one pound of crude ergot should make one pint of fluid extract of ergot which, when injected into a white leghorn rooster, will tint his comb bluish. No one knows exactly why this reaction occurs.

BURLINGAME PUBLIC LIB.

The two policies

It is interesting to see how the peculiar industrial problem of manufacturing pharmaceuticals has been solved by two different internal policies. Parke, Davis, doing perhaps a $35,000,000 business with the world, is far-flung and imperial, its labels printed in fifteen languages and some East Indian dialects. In the days before the biological laboratory the firm sent out botanical expeditions to the remotest jungles, bringing back among other things coca (before the discovery of cocaine) and the now universal cascara sagrada. When the biological laboratory began to assume importance in medicine, Parke, Davis showed the world the principles of biological assay—the testing of drugs that cannot be chemically measured (digitalis, cannabis, gland extracts, etc.) upon animals awaiting in cages the pleasure of mankind. Parke, Davis first did this in 1897.

THE FAITH OF STOCKHOLDERS IS A FICKLE THING • IN THE stilted oratory of annual meetings, a company's stockholders have often been eulogized as the "backbone of the business." In the cold light of fact, a great many corporation heads are concerned over the indifference of stockholders more than the aggression of competitors. The "backbone" needs stiffening. • Wise executives today regard the building up of confidence among stockholders as a primary duty. They know that an investor fortified by a belief in the men and methods of a corporation, and armed with first-hand knowledge, is not going to be stampeded by rumors. • That is why, with each dividend check, shareholders in certain companies receive a personal letter from the president. It may be a frank outline of the condition of the business, or it may open up new plans and vistas of profit. In any case it welds a closer relation between ownership and management. • Its effect is multiplied because it is a *real* letter—typewritten on the president's own letterhead—signed with the president's own name. In its physical make-up there is no hint of shabbiness or apology. It has the crisp, distinguished look and feel that only a fine, all-rag paper can give. • Because Coupon Bond is made, 100%, from clean, new rags, and because national advertising and national distribution have made it the most famous high-quality bond in America, it is the paper most often chosen by large corporations for letters sent from their executive offices. • Our portfolio, ' The Modern Trend in Letterheads," and a new booklet, "The Executive Letter," will be sent you on request. (In writing, please use your business stationery.) • *Coupon Bond is but one paper in the Eagle-A Line of Bonds, Ledgers, Writings, Index Bristols, Offsets, Covers, Book Papers, Mimeograph and Manifold Papers—the* right *paper for every business purpose.*

AMERICAN WRITING PAPER COMPANY, INCORPORATED
HOLYOKE, MASSACHUSETTS

RAG
QUALITY
COUPON BOND
MADE IN U.S.A.

EAGLE·A·PAPERS

This is the great standardized firm of American medicine, relatively unfamiliar to the public, dealing almost exclusively with the professions of pharmacy and medicine, with a slight bending toward the public in the marketing of laity products in recent years. The staff has a reputation among physicians for its scientific excellence. It is headed by Oscar W. Smith, keen business man among medicos, who entered the firm more than forty years ago and specialized in exports. Parke, Davis' general manager is Dr. A. William Lescohier, who has a background of experiment and research, and the Parke, Davis scientists include such men as Dr. Oliver Kamm, author of treatises and master of the pituitary gland, and Dr. Wilbur L. Scoville, veteran of pharmacy, awarded the Remington honor medal for 1929, which is the highest honor that the profession of pharmacy can bestow.

By contrast with the emperor in Detroit, Squibb, with about half as much business and chiefly in the U. S., is well-knit and compact. Squibb takes special pride in the fact that it produces nothing but what is marked by its own name on the label. It is one of the rare firms in possession of a founder immortalized every business day, with a new generation to keep the day busy. Edward Robinson Squibb, researcher and chemist of the 19th century, practiced medicine in Philadelphia from 1845-47; served in the Navy 1847-52; founded, with the financial aid of friends, the manufacturing laboratory of E. R. Squibb, M. D. (Brooklyn) in 1858. This man had a rugged personality with which he ruled his laboratory, experimented with drugs, and fought patent medicines. He refused to patent any of his products, bottles, or even to trade-mark his labels. He spent years trying to show a rival house how to make ether by his own process; he even loaned them his superintendent for a month. He took pride in being a scientist; he scorned trade. His price lists were computed on the basis of cost plus profit, without any reference to competitive lists. They always carried a statement to the effect that "we have the following and here is what they cost, but we want you to understand that we are not trying to get your business." Although the modern Squibb does patent its discoveries and although it does try to get business, a very definite effort is made to keep the old gentleman in sight.

He died in 1900. The business is now commanded by able, active Carleton Palmer, director of Canada Dry Ginger Ale and of The Chemical National Bank (New York branch). He became president at twenty-five, having started in the Squibb business at $20 a week, studying under his father, Lowell M. Palmer, and learning chemistry by night. The management also includes Theodore Weicker, Ph. G., Ph. C. (Columbia), first vice president and largest Squibb stockholder, who established the American house of Merck and Co., pharmaceutical manufacturers of Darmstadt, Germany; Dr. John F. Anderson, M. D., second vice president, formerly director of the Hygienic Laboratory, Washington, D. C., where he controlled the licensing of biological products; and Ferdinand W. Nitardy, Ph. G., Ph. C. (Northwestern University), in charge of manufacturing. Dr. Anderson and Mr. Nitardy have been members of the U. S. Pharmacopoeia Revision Committee.

Working closely with Mr. Weicker, Squibb President Palmer has injected some rather startling ideas into the business of manufacturing pharmaceuticals. First, a cumbersome list of 2,659 items was cut to a mere 300 scientifically efficient ones. Next, an unheard-of proposition was made to the Council on Pharmacy and Chemistry of the A. M. A. Squibb asked permission to advertise a line of household products (cod-liver oil, castor oil, sodium bicarbonate, milk of magnesia, epsom salts, liquid petrolatum, dental cream, shaving cream, and talcum powder are the most important) in national magazines—a practice hitherto followed only by patent medicine houses. The Council deliberated; finally granted permission with the understanding that (1) no claim shall be made for a specific cure by any product; (2) no broader market for the drug shall be created (it would be unethical to say, "Take sodium bicarbonate after meals to relieve gas"); and (3) no drug shall be advertised that might encourage self-medication.

On this basis the Squibb advertising, under the direction of Mr. Weicker, who coined the "Priceless Ingredient" idea, is extremely interesting. It seeks to enlighten the public on the scientific qualities of certain prophylactic medicines, but where a patent medicine house would claim a cure, Squibb bows the physician in through the door. The advertising has certain limitations. While Bayer's aspirin is advertised and sold in volume, Squibb does not advertise its own aspirin because the A. M. A. considers this a drug that ought to be taken only on physicians' prescription. On the other hand, due to Squibb's vitamine advertising, cod-liver oil has moved up in the public mind from a nasty obscure medicine to a valuable dietary supplement, and is probably the most important Squibb product at the moment. The layman cannot but feel grateful for this tearing aside, at proper points, of the curtain of professional reticence.

Squibb is particularly determined to solve, by selection and coördination of outlets, the problem of marketing scientific products in the noisy American drug store. With driving energy Mr. Palmer has originated something entirely new in the way of coöperative finance. The Squibb Plan, Inc. is a corporation whose authorized capital is divided into Distributor's Preferred Shares and Manufacturer's Shares, the same number of shares in each class to be outstanding at any one time. The former can be bought at $50 a share by independent retail druggists of whom Squibb approves; the latter are issued to E. R. Squibb & Sons. The subscribing druggist receives:

(1) a preferred annual cumulative dividend of $3.00 per share on the distributors' preferred shares that he holds;

(2) a cash distribution based on contract between E. R. Squibb & Sons with the Squibb Plan, Inc., the amount of each distribution to be determined by the retailer's direct purchase of Squibb products and not by the number of distributors' shares.

Instituted only last year, this plan increased Squibb sales to members of the plan 24.7 per cent for the entire year (the average period of membership was only eighty-four days). The average return to the druggist from his investment in the plan was 15.2 per cent for eighty-four days, equivalent to 60 per cent per year.

To neither Parke, Davis nor Squibb is the scientific laboratory a sufficient source of revenue. While, because of immense distribution, Parke, Davis' return from biologicals is larger than Squibb's, the overhead of its laboratory is enormous. Professionally speaking, doctors lose a certain prestige in joining with a commercial organization and therefore salaries for top men in either firm are high. The laboratory is really an investment in the goodwill of the medical profession, and in the future. For this reason it would seem that Squibb's policy of educating the public up to the laboratory as far as medical ethics will permit—a kind of democratization of science recently undertaken by Parke, Davis also—is a wise industrial step, and will do more toward dispelling the chaos of the present drug outlets than professional reticence has done in a hundred years.

A. T. & T.—*Continued*

than happy to have its common stock regarded as primarily a high-grade bond. The arithmetic of $16 earned minus $9.00 paid out equals $7.00 melon may be very compelling to the investor. But the Telephone company says it needs the surplus represented by the $7.00 difference, and so there is no melon, and, most fundamental of all, *even if there were a melon, the only cutting would be a cutting of telephone rates or an improvement in service.*

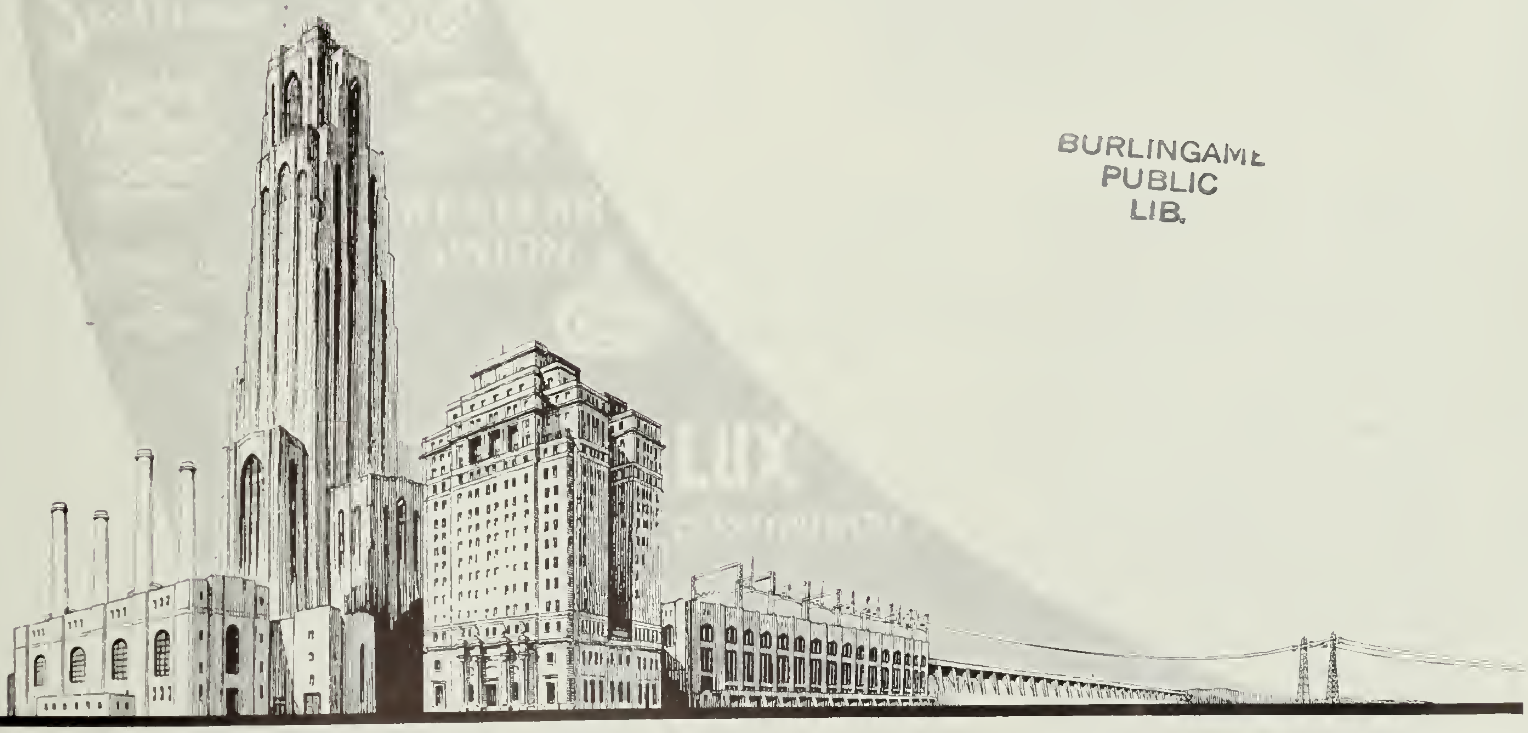
There remains one last refuge for the bull speculator in Telephone stock. He may argue that, narrow-minded as the telephone company may be with reference to its *utility* earnings, it might at least be a bit more liberal with its *non-utility* earnings. The Telephone company has in Electrical Research Products, Inc. (a wholly owned subsidiary of Western Electric), a corporation engaged in activities which do not apply to the telephone and are a strictly private manufacturing enterprise. Most obvious of these activities is the talking-picture machinery, handling of which Electrical Research has taken over from Western Electric. Most discussed of these activities is television (developed jointly with Bell Telephone Laboratories, Inc.), which has provoked many rosy prophecies and has also frightened the cinema people. Least heard of, but perhaps most immediately practical, is a sort of wired-wireless device for telephone

BUILDERS AND ENGINEERS FOR THE BUSINESS LEADERS OF AMERICA

Business leaders know from actual experience that they can depend upon Stone & Webster Engineering Corporation to meet required completion dates for construction projects. Construction is carried on economically and efficiently. Operation of the completed plant, office building, structure, or development meets every requirement. Our personnel, with a background of over one billion dollars' construction experience, is of a calibre well suited to work with your entire organization.

During the last ten years, more than 75% of our work has been for concerns not connected in any way with Stone & Webster interests. Our service is immediately available to you for any problem in modern building and engineering work.

BURLINGAME
PUBLIC
LIB.



STONE & WEBSTER ENGINEERING CORPORATION

A SUBSIDIARY OF STONE & WEBSTER, INCORPORATED broadcasting, by which, roughly speaking, the telephone owner could get a radio program over his telephone. Now what, says the speculator, would prevent the Telephone company from segregating these non-telephone businesses, either under Electrical Research or some new company, and getting out a big stock offering in which holders of Telephone stock would probably get a preferential treatment and from which they could draw dividends diluted by no complex of social responsibility?

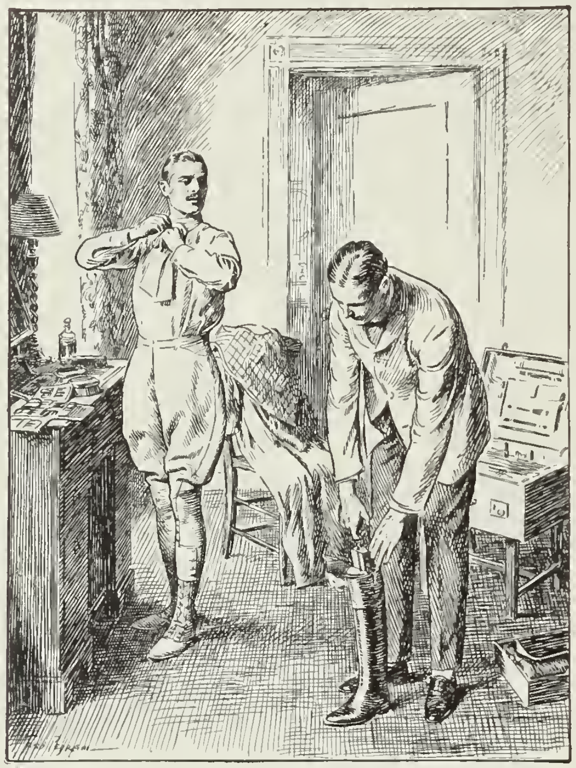
To all of which the Telephone company replies that it considers itself in the Telephone business, that it considers the profits derived from any non-telephone business as a part of what goes into the Telephone pot, and that any such profits, no matter how large, will be distributed on the same basis as if they were a result of telephone operation. In 1925, for example, Western Electric sold its foreign properties and in 1927 paid to A. T. & T. an extra dividend of $47,000,000. Here was a non-recurring, non-telephone profit, exactly the type of profit that could most readily be regarded as a bonus and distributed as such. But there was no distribution. The Telephone company in 1927 paid its regular $9.00 dividend, put the $47,000,000 into its surplus, and used it to run the telephone business. And in its 1929 report, the Telephone company went out of its way to discourage bullish interpretations of non-telephone activities by stating that although the business of Electrical Research was important in its own field, "its earnings obviously cannot be a material factor in an enterprise of the size of the Bell System." It is the policy of the company that all income is telephone income and, as such, subject to distributive restraint.

. . .

The persistence with which the Telephone company is regarded as holding back money which it will ultimately divide among its shareholders is simply an inability to grasp its way of looking at its business. Certainly such an inability emphatically exists in Wall Street. Explain to almost any professional investor the Telephone philosophy concerning the public as residuary legatee, and he will look at you with blank disbelief. Indeed, he feels sorry for anyone who can be so easily taken in. That a company can exist on any other basis than the making of the greatest and most immediate profit is a proposition which the speculative mind is congenitally unable to grasp.

Yet, from a broader standpoint than the excited individualism of a bull market, it is not so strange a proposition. As large corporations reach the point at which their management becomes virtually independent of their stockholders, it becomes possible for that management to take thought of itself in its institutional aspects. It is particularly true that a great and monopolistic utility such as the Telephone company may consider public opinion at least as important as stockholders' opinion. Mr. Gifford and his associates have been in the utility business for a long time. They have also been, for a long time, prosperous and powerful. If they give an investment return which is not sensational, they give also a return which is steady and sure. They have had the leisure to wipe the corporate sweat from their brows and consider themselves as a public institution as well as private enterprise. They can take a Main Street rather than a Wall Street attitude. It is possible for private capital to become social minded. The Bank of England, for example, is privately owned, yet the Governor of the Bank of England probably thinks more often of public welfare than of private profit. The Telephone company has not been a public institution for as long as the Bank of England. It is, however, one of the most seasoned of American utilities and certainly the greatest. There is no other company that could more appropriately regard the public as the residuary legatee of its benefits, and no other company that has acted on the belief that giving this consideration to the public is the best service for its stockholders in the long run. That the Telephone company does so regard its public is a statement which no one is compelled to believe. It is also a statement which it would be presumptuous for anyone to deny.

ESTABLISHED 1818.
Brooks Brothers,
CLOTHING,
Gentlemen's Furnishing Goods,
MADISON AVENUE COR. FORTY-FOURTH STREET
NEW YORK



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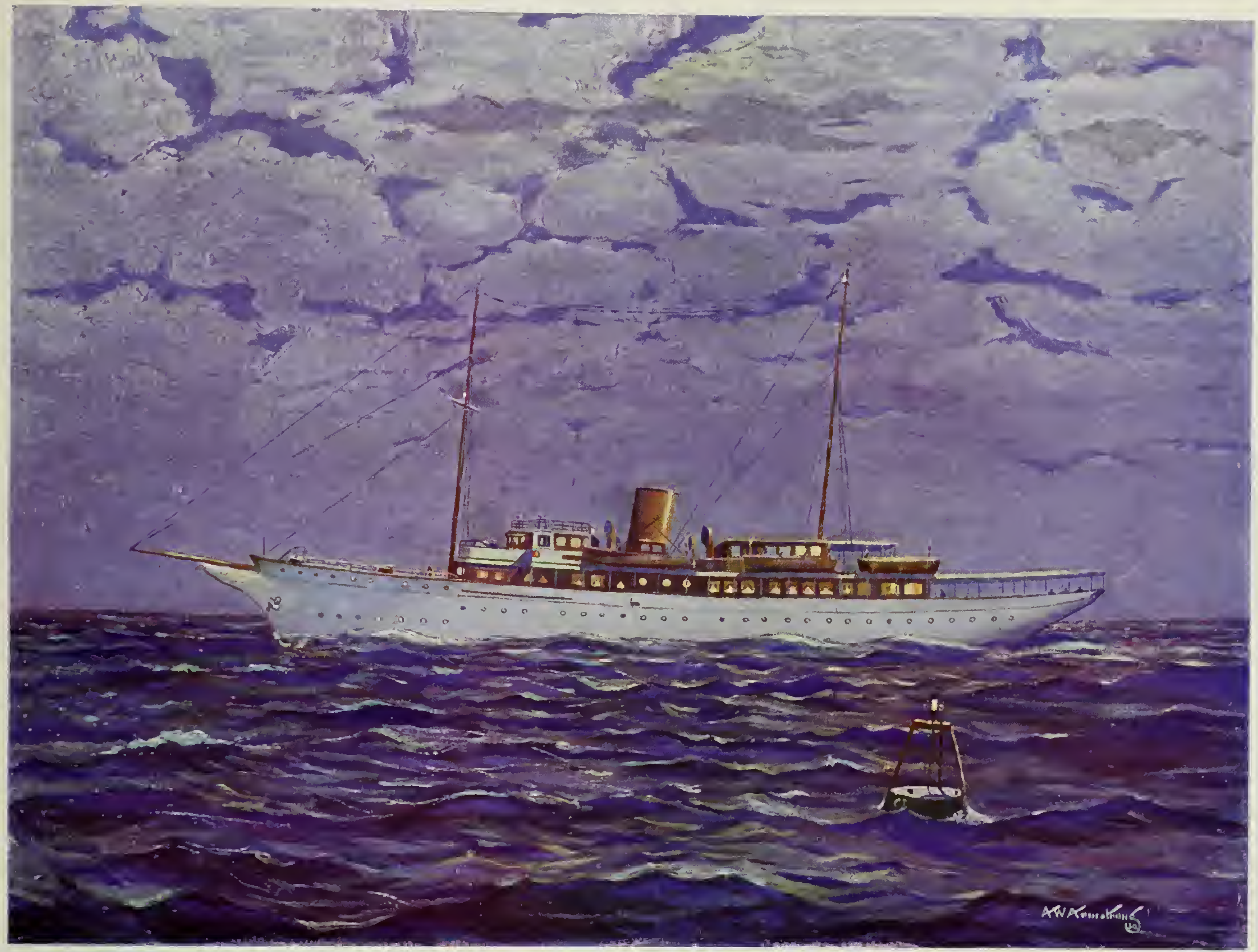
Clothes for the Horseman
Complete Equipment
for the Hunt

Send for "A Wardrobe for
HUNTING & BEAGLING"

BRANCH STORES
BOSTON
NEWBURY CORNER OF BERKELEY STREET
NEWPORT PALM BEACH



CAMBRIONA

Look at her! All the fleet grace of a racing packet, all the safety and luxury of a four-day liner are skillfully blended in this outstanding yacht . . . In every port, from Bar Harbor to Batavia, *Cambriona* will be the distinguished guest; but give her five thousand miles of open water and a snorting Nor'easter to prove her worth as a *ship!* . . . Nautically speaking, *Cambriona* is 236 ft. O. A. with a beam of 34 ft. Her depth is 19 ft., and she is powered with two 1100 H. P. Winton Diesels that give her a cruising speed of 15 knots for 7000 miles without refueling. *Cambriona* is also equipped with Sperry Stabilizer, Gyro Compass, Metal Mike, Fathometer and other advanced aids to navigation and control. She was designed by Cox & Stevens, Inc., and John H. Wells, Inc., and built by us for W. O. Briggs, Esq. of Detroit.

Distinguished yachts recently launched at the yards of The Pusey and Jones Corporation

RENE
Length 236 feet
Owner:
THE RENE CORPORATION
NEW YORK
Architects:
COX & STEVENS, INC.
JOHN H. WELLS, INC.

LOTOSLAND
Length 203 feet
Owner:
COL. EDWARD A. DEEDS
NEW YORK
Architects:
COX & STEVENS, INC.

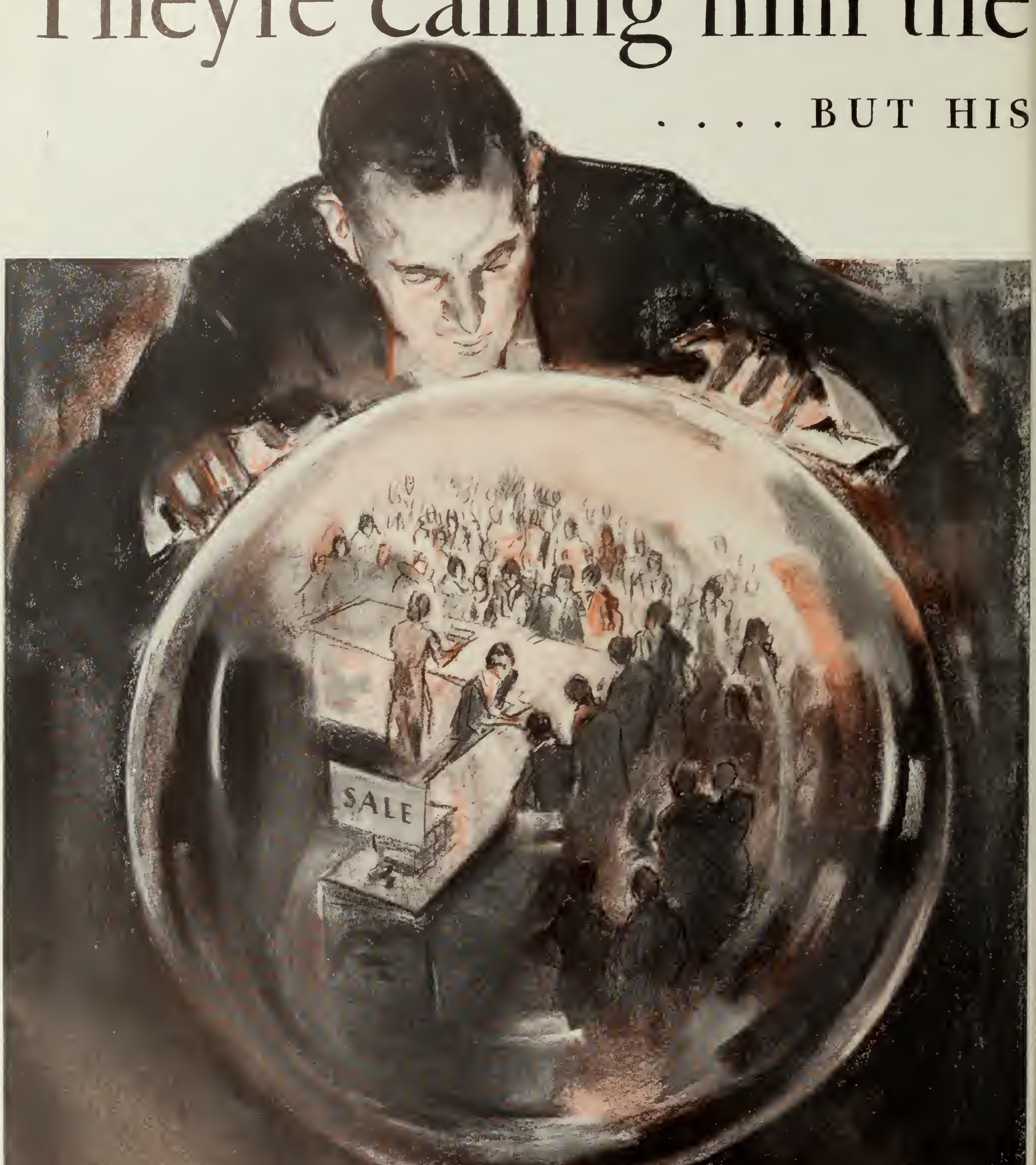
NAKHODA
Length 236 feet
Owner:
FRED J. FISHER, ESQ.
NEW YORK
Architects:
COX & STEVENS, INC.
JOHN H. WELLS, INC.

THE PUSEY AND JONES CORPORATION

Shipbuilders Since 1848—WILMINGTON, DELAWARE

They're calling him the

. . . . BUT HIS



Crystal Gazer

CRYSTAL IS A BALL OF FACTS AND FIGURES

Throughout his industry he is known as . . . "The Man with the Clairvoyant Mind." New business conditions face him . . . but don't faze him. For, with uncanny accuracy, he seems to anticipate today's business trends before they happen.

When, not long ago, the whole trend of design in his industry began to change, somehow his men were showing the new lines while competitors were struggling with the "old stuff."

Inventories don't seem to weigh heavily on him . . . somehow his stocks are just a trifle "cleaner" than his competitors'. Ruthlessly, it seems, he's cutting items from his line. Recklessly, it seems, he's adding new ones. Salesmen get sudden instructions to skip whole sections of their territories . . . and somehow, close more orders.

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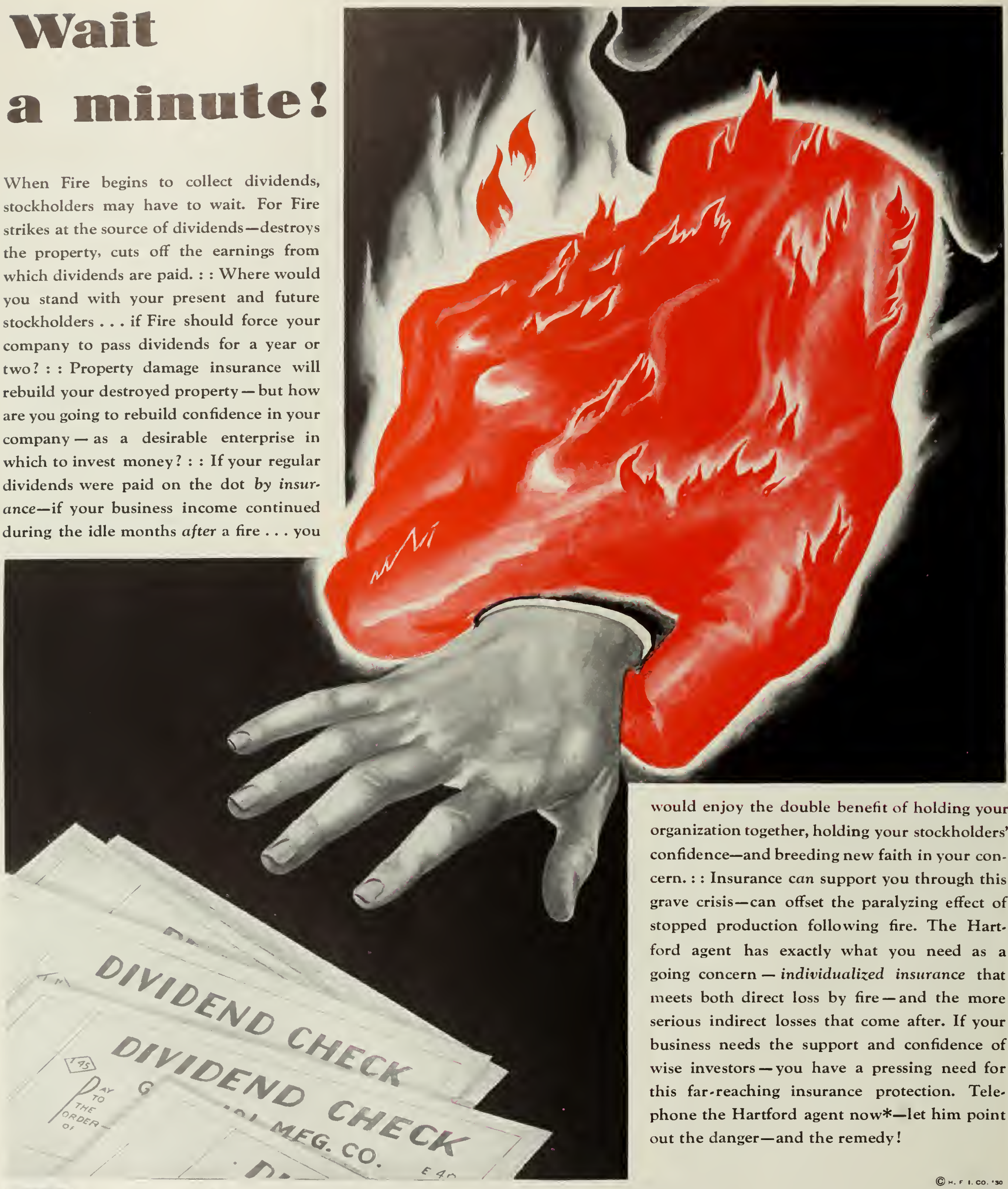

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Skyscrapers: The Paper Spires—*Continued*

it impossible to delay beyond that date.

These various elements fixed the perimeter of an oddly shaped geometric solid, bounded on one side by 83,860 square feet of land, on another by $35,000,000, on another by the law of diminishing returns, on another by the laws of physics and the characteristics of structural steel, on another by the conical exigencies of the zoning ordinances, and on still another by May 1, 1931. And within these bounds the architects were to design their building. Even had it been possible to fill such a shape with brick and steel, the architects would still not have been free to do so. These were in addition to those obstacles and limitations and constraints introduced by their profession. The building must be efficiently planned. And it must be beautiful.

Selling Cells

"Plan efficiency" is the obvious name for the ratio of the net rentable space to the gross floor area. The owner (and the architect and builder with him) is engaged in manufacturing and selling office space. Office space is made up, as a honeycomb is, of cells. In New York the cells are spaces between columns placed about twenty feet apart along the exterior walls, and are twenty-five to thirty feet deep. Each has two windows and can be divided to form two offices with an anteroom, or can be left as one. A floor is made up of these units with their attendant services, their intercommunication, their exit facilities, and the space for the utilities, ventiducts, plumbing shafts, electric feeders, mail chutes, etc. serving the floors above and below. These cells are the units manufactured and sold. They can only be sold with their accompanying services. A plan is efficient if the ratio of saleable units to the total fabric which must be constructed in order to make them saleable is high. Plan efficiency usually runs to 65 or 70 per cent of the gross floor area. Considering the entire building (including boiler plants, elevator overruns, machinery and pits, penthouses, pipes, lofts, service employees' quarters, storage space, roof, etc.), 17.5 to 25 cubic feet may have to be built to build one square foot of rentable area.

The second limitation, imposed by the architect's profession, is the dimension of beauty. Since it exists only in the architect's esthetic conscience and artistic power, it can be, and very frequently is, ignored. Or, when not ignored, debased. Or, more simply, missed. One of the dogmas of skyscraper esthetics is that architectural beauty is not an adjective to be applied to the necessary structure of the design, but a possible inherent statement of the design itself. From which conclusion a large number of skyscraper architects have apparently deduced the further dogma that efficiency is inevitably and inherently beautiful and that the mere declaration of the function and construction of a building will, by some divine law, result in loveliness. Manhattan Island is covered with proofs to the contrary. The architecturally successful buildings are successful not because the economic and legal problems have been solved and the steel work expressed, but because the frank expression of the underlying construction and the logical solution of the economic problems have been presented in proportions which are themselves beautiful. Furthermore there is a considerable element of self-delusion in the demand for the complete statement of structural detail. No architect has yet seriously contemplated the exposure of his steel columns and girders on the outside walls of his building. Raymond Hood in his Daily News Building in New York, one of the most beautiful and one of the frankest buildings of our time, suggests, but only suggests, its internal structure. Its steel is covered by brick and tile. And no architect with a ground floor of shop windows to reckon with has so far dared to let his sheet of masonry balance upon his sheets of glass. In some way he gives it an illusion of support. The human eye and the human sense of gravity demand it.

R. H. SHREVE

Underwood & Underwood

WILLIAM F. LAMB

The Board

Faced, then, with this plot, at this price, and pushed and pulled by all these various legal and economic and physical and esthetic considerations, the architectural firm of Shreve, Lamb & Harmon set to work to compose a rough sketch of the building to be built. But not in the isolation of its drafting rooms and not with the calm and quiet which the creative artist seeks to find. All that has been changed. The skyscrapers have changed it. Architects of these great buildings are no longer the lords of construction. They are members of the Board.

There was a time when you went to an architect as you went to Mr. Rufus Choate. You put your life and your purse in his hands and neither you nor your friends nor your mortgagees were permitted to question his esthetic judgment. Then structural steel appeared, and that much of the architectural function was amputated under the title of structural engineering. Structural engineers have their own society and their own code of ethics. They are forbidden by law to file plans for a building costing over $10,000 and are therefore always employed on big projects as aids to the architect, their fees for full designing service and approval of working drawings running from one-half of 1 per cent to 1 per cent of the cost of the building.

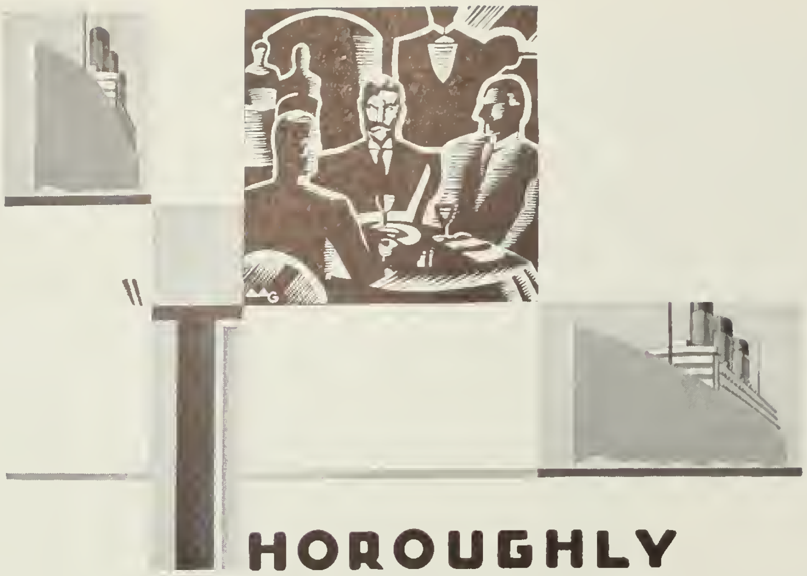
Further severances in the architect's functions took place as the height and size of buildings complicated the mechanical installations to the point where no architect was competent to design them. Heating and ventilating engineers, electrical engineers, plumbing engineers, and, above all, elevator engineers began to appear as necessary members of the general staff, usually retained, like the structural engineer, by the architect and paid out of his fee.

Again, the problems of construction became such that the 19th century practice of sole supervision by the architect was abandoned, and the modern builder (of whom George A. Fuller, who died in his forties as recently as 1900, was the first example) took over that part of the architect's field. The builder supervises the sub-contractors and coördinates the various trades.

And, finally, the owner interest in the construction of great commercial buildings, buildings erected solely to return a certain income on the money invested, was so immediate and concerned so many interests, as mortgagees, bondholders, banking syndicates, etc., that the skyscraper architect was forced to alter his conception of his calling and to accept, as his prouder predecessors never would have done, the interference of the owner interests in the most sacred and inviolable precincts of his design.

In the Empire State Building the builder, Starrett Bros. & Eken, was retained immediately after the architect. The job had been discussed with various reputable firms. On September 11, 1929, Paul Starrett and ex-Governor Smith lunched together; their verbal agreement was confirmed by letter on September 13; on September 20 the contract was drawn up and signed. By this agreement the builder obligated itself to complete the building by May 1, 1931, and also undertook to do the demolition, the excavating, the foundations, the masonry, the fireproofing, and the floor arches itself. These would be done at cost, and the builder's only remuneration for the job come through its fee.

The Consulting Board was now set up as follows:



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William F. Lamb—designer
H. R. Dowswell—specifications expert
I. Clavan—job captain in the architect's office

Builder:
A. J. Eken—vice president of Starrett Bros. & Eken in charge of construction
R. H. Hunter—vice president of Starrett Bros. & Eken in charge of construction

The following were available for consultation when needed:

Messrs. Smith, Raskob, and Kaufman—executive board of the owner corporation
Homer G. Balcom—structural engineer
Meyer, Strong & Jones—heating, ventilating, electrical, and elevator engineers
F. J. Brutschy—plumbing engineer

And as a member of this Board the architect began his work. Anyone who doubts whether an architect earns his fee has only to put himself in the position of Mr. Lamb at this point. The fee was probably large enough—but by no means so large as the amateur statisticians who are accustomed to figure on 6 per cent of the cost of the completed building would guess. The 6 per cent fee was established by the American Institute of Architects before the era of skyscrapers and is now outmoded as excessive for such work. The banking syndicates and business executives who pay for great buildings are accustomed to buy things at a known figure, and they dislike a practice which may mean that the substituting of one word for another in the specifications will jump the architect's fee $5,000 to $10,000. Consequently it is the practice of the great firms to charge a fee which will cover (1) office overhead; (2) the cost of these particular plans; and (3) a fair compensation to the architects. A lawyer might easily receive a fee of $500,000 for the reorganization of a $50,000,000 corporation. The architect's fee for the Empire State Building will almost certainly reach no such figure.

Mr. Lamb began by sketching various floors for the proposed building. There is a considerable reduplication of floors in a modern skyscraper, all the tower floors being alike in basic design, and all the lower floors, and only the set-back floors presenting individual problems. The tower floor plan is fundamental. It is the theme of the symphony. It is implicit in the ground floor design, for the central columns of the ground floor which, at that point, serve to space the elevator hatches will eventually, as they rise through the building, control the pattern of the tower. And it must be preserved in the complications and variations of the set-back floors. Consequently it is good architectural practice to fix the typical tower plan first and to work out the transposition from tower to ground floor plan through the set-back floors afterwards. This Mr. Lamb did. He did it, in all, some sixteen times. For each design the rentable floor areas were computed in the architect's office and the probable returns worked out by the real estate advisers of the Board. The height came down from Mr. Raskob's hoped-for hundred stories to the eighty odd fixed by the 36,000,000 permitted cubic feet and the elevator service. But still the problem had not been solved. There was too much dark space in the lower floors, and the Board was determined to manufacture no cell space it could not sell at maximum figures. Finally Mr. Raskob suggested that they might possibly make more money by building on only a quarter of the lot, and this desperate proposal was for a few days or a few hours seriously entertained. But not adopted. Between six o'clock in the evening of one September day and the two o'clock Board meeting of the next, plan number seventeen (known as Scheme K) was conceived. And Scheme K was the Empire State (see page 55).

By Scheme K, a base of only five stories will cover the entire lot. The ground floor will provide space for thirty-three stores around the exterior, and the center will be occupied by seven banks of elevators and the necessary stairs. Above the fifth floor there will be, in violation of all architectural practice of the day, a sudden set-back of sixty feet, practically enough in itself to satisfy the requirements of the zoning laws. And from that point the eighty additional stories of the building will rise almost sheer (the additional set-backs being insignificant in relation to the height of the shaft), nearly a

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thousand feet in the air. And above the roof there will be a 200-foot mooring mast for possible dirigibles (permitting the incoming trans-Atlanticist to slide down an elevator shaft into Fifth Avenue in five minutes instead of steaming up from Lakehurst, New Jersey, in 120). Utilities, including elevators, mail chutes, cable shafts, toilets, staircases, etc., will be grouped in a central core tapering toward the top of the building.

This plan appeared to consider and solve each of the elements of the complex problem presented. It was undeniably satisfactory to the eye. The great shaft rising clear upon its pedestal of five stories had a freedom and authority that the ordinary, crowded, and elbowing spire, with its air of craning above its neighbors, did not have. The "plan efficiency" was high. One million, nine hundred and twenty-one thousand, eight hundred and eleven square feet of net rentable area stood to the gross floor area in the relation of 69 to 100, and only 16.11 cubic feet of structure were required for each square foot of rentable area. The requirements of the law were satisfied and more than satisfied: no attempt had been made to fill every angle of the permissible legal "envelope." And the economic requirements had been met. In spite of the sacrifice of space to light (or perhaps because of it, if the higher rental rate is borne in mind) it was estimated that this building would return about 10 per cent per annum upon the total amount invested. It does not follow that the height of eighty-five stories was the exact "economic height." There is a prestige value in the possession of the tallest structure in the world, especially when that structure is apt to remain the tallest structure in the world for a long time to come. And the Empire State Building is extremely apt so to remain. You can build safely above 1,200 feet. The Empire State itself could have gone much higher. But the margin of gain in rentable area as you go up above the sixtieth floor is, in New York, so slight that the race for roof altitude at 1,000 feet or more becomes merely fantastic: a pure act of pride.

Mr. Lamb's sketch also met the time requirements. The builder objected to a tentative plan for the construction of a department store in the lower areas on the ground that the necessary construction to eliminate columns would take too long, but otherwise accepted the plan. And the building was under way.

As yet the old Waldorf stood upon the plot.

The mortgage

The first act of the Board was to call in a few known and reputable sub-contractors and take their estimates in order to establish a basis for the rough computation of costs. Next this tentative estimate and the architect's preliminary sketch were handed to the Metropolitan Life Insurance Company with a request for a mortgage loan. The Metropolitan turned the documents over to its own architects and engineers. A few days later ex-Governor Smith dropped in. And in thirty minutes a $27,500,000 mortgage loan had been arranged at 5½ per cent. The syndicate then took a second mortgage bond issue of $13,500,000 at 7 per cent and an issue of 100,000 shares of preferred stock of no par value paying 6 per cent. One hundred thousand shares of common were then issued to the holders of the preferred. Carrying charges during construction, i.e., to May 1, 1931, will actually total, on the two mortgages, $2,132,500.

The next act of the Board was to plan its campaign. Demolition was to start at once. Starrett agreed to finish that by February 15. Excavations and foundations which would start while demolition was still in progress would be finished, and the builder would be ready for steel March 15. Therefore the fabrication of the basic steel must be finished and first deliveries made by that date. Therefore the steel contract must be let at least two months earlier—say by the middle of January—in order to give the erector, the fabricator, and the mills time. Therefore a preliminary plan for bidding purposes must be ready by November 15.

And all this time the materials to be used are being studied for color, texture, cost, durability, upkeep, availability, etc. A new chrome-nickel steel (the product of Central Alloy Steel Corp. and of Allegheny Steel Company) is to be used around the windows on the exterior of the Empire State. But no one knew, until a grand council of war had been held, in what dimensions the sheets could be rolled and fabricated or how they could be

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Spurs of Richard. Painted by Ludwig Gassner

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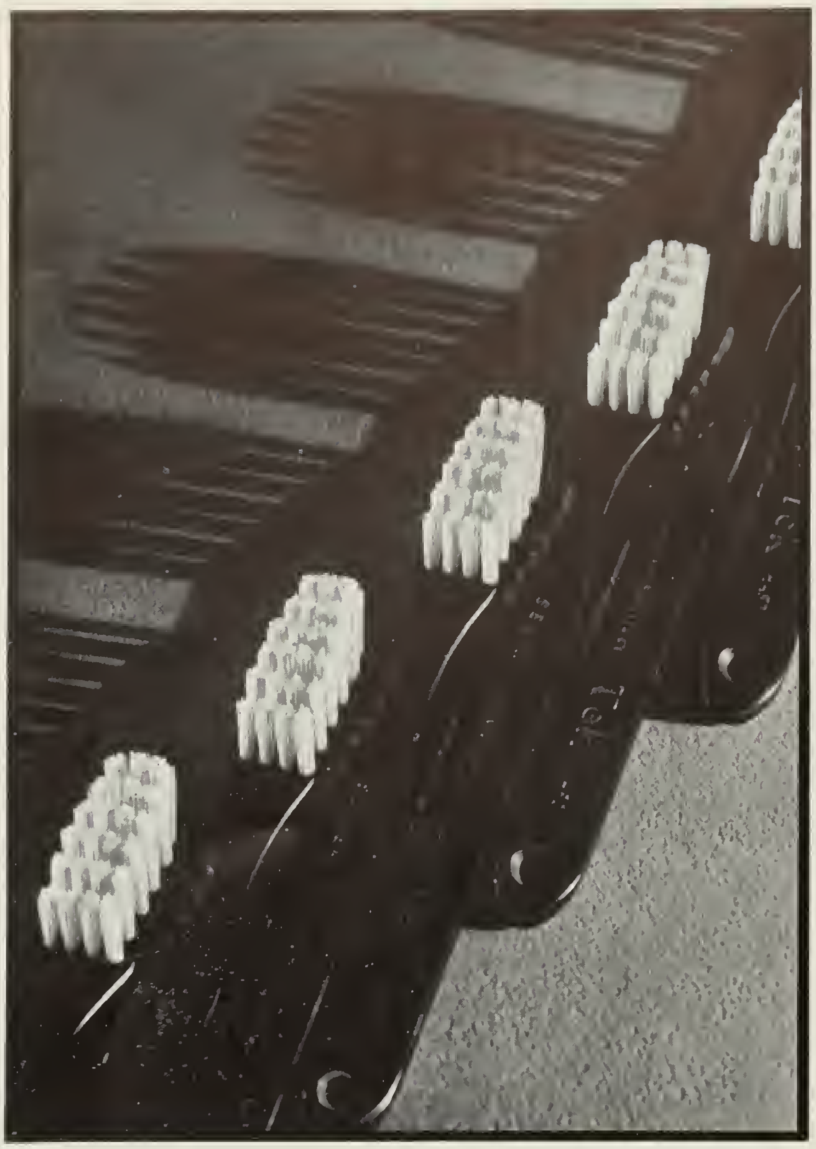

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jointed or how attached to the metal frame of the building or even to what extent the bright finish would prove durable.

The relation between the architect and the structural and mechanical engineers must, in all this work, be very close. A good architect knows the general size of an elevator hatch. He can usually make a fairly accurate guess as to the number of elevators required. But when it comes to determining the actual installation to be made, the architect cannot possibly work alone. Steel design is involved in the elevator problem as well as foundations, hatchways, clearances, and electric service. In the Empire State it was proposed to install more and larger and faster elevators than any previously known. The contract was let to the Otis Company and that company immediately set to work through its leading technician, Mr. David Lindquist, and with the coöperation of Mr. Bassett Jones, of Meyer, Strong & Jones, engineers, to perfect an automatic spacing and timing device which would prevent the simultaneous arrival of several elevators at the same floor at the same time. The elevator contract amounts to $3,000,000 and certain parts of the completed job, in the opinion of Mr. Lindquist, will cost Otis three times what they receive because of the experimental work required. The loss will be charged off to necessary laboratory experience.

Fundamentally, steel

As to the fundamental and primary question of the steel itself, the architect is in a somewhat anomalous position. Structural steel is the means, the cause, and the occasion of his work. Without it neither he nor his buildings would exist. And yet its use is, literally, beyond him. He knows the usual sizes of steel fabricated and employed, the best spacing of bents and size of bays. He knows that his building will be better wind-braced and stiffer if his steel lines run straight through the building horizontally and vertically than if they stagger around the shafts, and that the fewer transfer girders he is obliged to use the better. But what weights of steel will carry what loads and what precise lengths of girders and columns will be required throughout, he cannot tell. He turns, therefore, to the structural engineer. The structural engineer advises him as to position and dimension of all steel work and "designs" the steel. If the architect is experienced and his proposed skeleton conforms (as Mr. Lamb's most successfully did in the Empire State) to engineering requirements, the structural engineer's work is comparatively simple. If the architect is inexperienced, the engineer may be obliged to tear down and reconstruct the entire plan.

These steel specifications go from the structural engineer to the erector, who will by now have been employed. The erector is a specialized builder who, as his name implies, *erects* the steel. He may or may not fabricate it himself, but his derrick crews and riveting gangs put it up. He is the hero and the noisy villain of the construction drama. The Empire State contract went to Post & McCord in January. By that time the architect's plans for basement and sub-basement were ready, and by January 15, 1930, Mr. Balcom, the structural engineer, had sent Post & McCord the first steel plans. Thereafter steel design drawings were forwarded at frequent intervals, a few floors at a time. The program adopted by the Board called for the beginning of erection on April 1, 1930, and the completion of roof framing over the eighty-fifth floor on the first of September. And between the forwarding of Mr. Balcom's design and the erecting of the steel lay (1) the preparation of shop drawings in the bridge shop; (2) the checking of those drawings by engineer, architect, and Board; (3) the forwarding of these drawings to the mills; (4) the rolling of the steel shapes required; (5) the delivery of the steel to the shops; (6) the drilling, punching, assembling, riveting, milling, finishing, painting, and shipping of the "members," in the bridge shop; (7) the delivery of the material to the job. And at every stage of rolling, fabricating, and erecting the material is inspected —first, chemically at the rolling mill and then physically for tensile and bending properties after fabrication.

There were 58,000 tons of steel to pass through this routine, and the first of it was due on the job two and one-half months after the first steel drawings went to the erector. Also 15,000 tons a month were required the first two months. It is small wonder the American Bridge Company split its contract with its greatest competitor, McClintic-Marshall,

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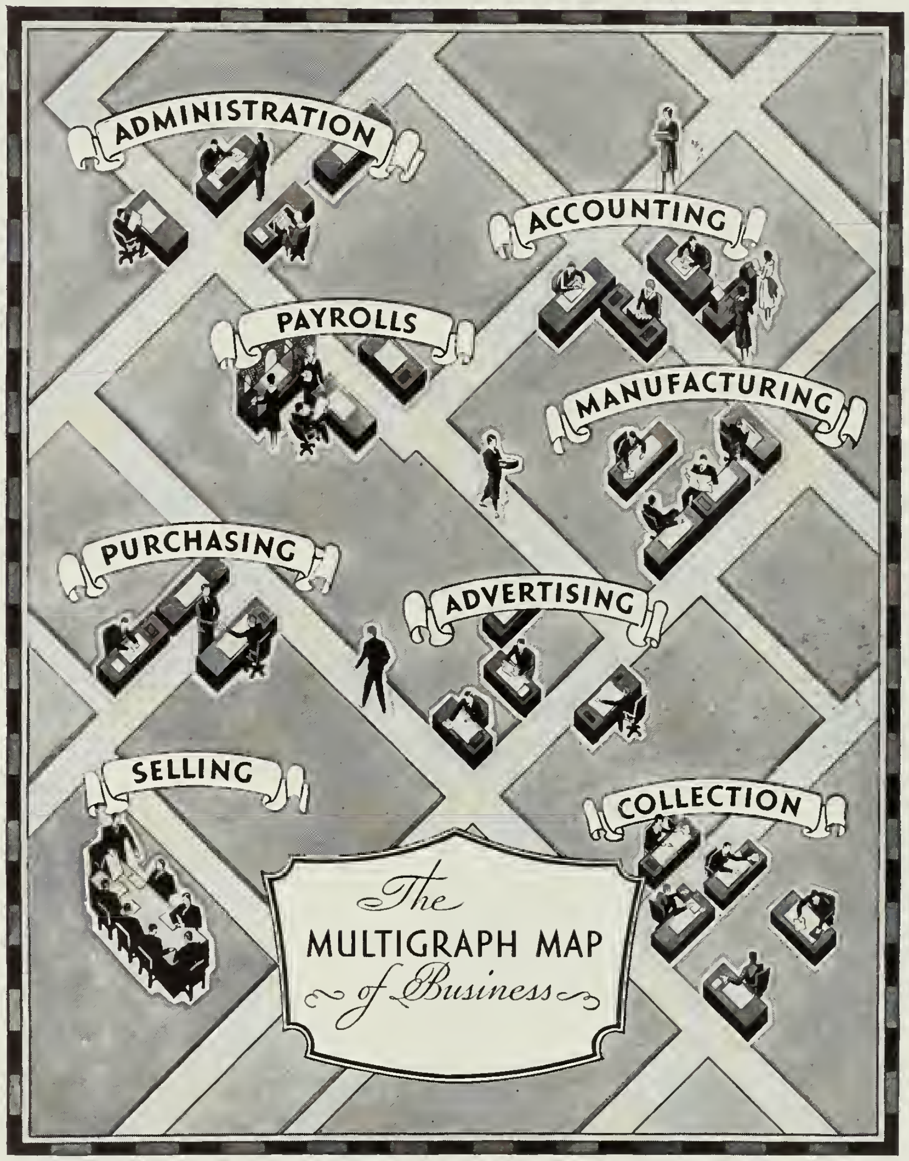

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The all-around MULTIGRAPH

each taking alternate groups of six or eight floors. The steel itself was rolled by the U. S. Steel Corporation.

The steel contract is obviously the basis of all others. No further plans can be made until the date of the first delivery of steel is fixed. But that being known and the rate at which the erector can put up his steel (say four floors a week), the other contracts follow in the order dictated by past experience, and the final progress chart of the building is made up. In the Empire State Building job the contracts following steel were let in this order: window sash, limestone, architectural iron (stairs, etc.), hoists, watchman and fire alarm service, exterior stainless steel, elevators, elevator inclosures, etc., etc. These were all lump sum contracts. Only reliable firms were asked to bid, and the lowest bidder was therefore awarded the work.

The limestone (for exteriors) was contracted for by four companies as no one company was large enough to get it cut and erected in time. But it is remarkable enough that four companies could do it. When Mr. Louis S. Weeks of New York put up the I.T.&T. building in Madrid and asked for bids for the delivery of the stonework, the shortest period of time he heard mentioned was seven years.

As soon as the sub-contractors and the manufacturers of the required materials are known, the architect's full-size drawings go forward. Having come so far, the theoretic building exists in all its details. Its construction chart carries it forward in time as its plans and profiles carry it upward in space. The men who will work upon it are known in numbers if not by name (there will be 5,000 or 6,000 working on the Empire State at the peak of construction). Its smallest units exist in life-size symbols, and its materials are specified to the last chemical component they shall contain. Nothing remains but to bring these men and these materials together in their prearranged locations. If the Board has done its work well, they will fall as precisely and logically and swiftly into place as the fragments of a photographed explosion when the moving picture ribbon is reversed.

Enchanted Tiles

[*Continued from page 77*]

that several of Mr. Mack's neighbors have built their spring boards to match. Another plunge which illustrates the western penchant is that of Mr. Earle C. Anthony of Los Angeles, who distributes Packards throughout California. It is a visceral shape in turquoise, with harbors, bays, and narrows.

By way of contrast, in the dignified Classic strain, there is the impeccable Mr. Charles Platt's design for the Manhasset, Long Island, estate of Ralph Pulitzer, publisher of the New York *World*. The owner now has more opportunity than ever to enjoy this serene plunge. Last February, prompted by ill health, he relinquished his active publishing duties to his younger brother Herbert who, although he was favored by his father with six-tenths of the elder Pulitzer's newspaper properties, had thus far kept more or less away from the presses. In the English manner, the leaf-spotted, richly patined brink belonging to Dr. Charles Briggs of Cleveland, son of the late Dr. C. E. Briggs, medico and copper financier, seems as though it had occupied its tranquil inclosure for centuries. Such gracious household accessories as this and Mr. Pulitzer's are plentiful, though few are so exquisite in detail.

No discussion of swimming pools should neglect Florida, whose expansive beaches are particularly well supplemented by artificial shores. Our one example should more than suffice. As France has its château of Chenonceaux built above the miniature river Cher, so Florida has the great Miami mansion of the late James Deering, farm implement man who merged with McCormick's. Beneath it is a thoroughly civilized twenty-eight-foot grotto whose walls are imbedded with sea shells and pebbles. Balustrades of ropes assist the bather into four feet of water. The grotto forms part of a swimming pool which extends another twenty-eight feet into the open air, offering bathing facilities as ornate as any you are likely to discover.

FOR YOUR NORTHWEST HEADQUARTERS

CONSIDER the New Rand Tower, Minneapolis, as your new Northwest business address. There are distinct advantages: efficient office space, a location in the heart of the city's banking section, an address of prestige in a building which has won international acclaim for its beauty.

THE RAND TOWER
MINNEAPOLIS

Address
The Rand Holding Company, Minneapolis, a unit of The Rand Companies, Inc.

CLARK
GRAVE VAULT

THE magnificent Solid Copper Clark Grave Vault combines a degree of de luxe beauty with a degree of dependable protection never before attained in a vault • Fully in keeping with the funeral of pretentious appointments, a fitting protection for the costliest casket, the Solid Copper Clark is an imperishable expression of unfailing love and modern standards • Unaffected by the elements, it carries a guaranty unlimited by time. In its construction solid copper, 10 gauge in thickness, is used, the handles as well as all attachments are also of copper. It weighs approximately 600 pounds • Sides and top are of one compact continuous piece without welding along the sides. The soft mat finish with etched floral design in polished copper gives a dignity and beauty unrivaled by any vault • It embodies the proved principle of Clark construction — that of the diving bell — found in all Clark Vaults. This principle, backed by quality materials and exacting workmanship, has made Clark recognized and preferred as the perfect vault protection for more than a quarter of a century • Better funeral directors everywhere can supply the Solid Copper De Luxe Clark as well as the following models: Gray and White Lacquer, Copper Bronzed, Gold Bronzed — Silvertone and Copper Finish, Cadmium Plated by the Udylite Process • "Less than Clark complete protection is no protection at all."

THE CLARK GRAVE VAULT COMPANY, Columbus, Ohio
Western Office and Warehouse, Kansas City, Mo.

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Luxurious Warmth

at the touch of a finger with

HāDees
HOT WATER
CAR HEATER

Blows Hot when it's Cold . . . Blows Cool when it's Hot

The HaDees hot water car heater gives you the same control of temperature in your car at all times, as your home hot water heating plant gives you in your living room.

The basic principle of HaDees — proved sound and true by years of experience — is developed to its highest efficiency in a compact, beautifully designed chromium finished unit.

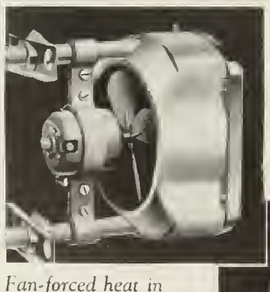
Hot water — fresh-air — heat, circulated from the hottest point of the engine, is distributed by electric fan at will, in any degree, in any or all directions — at once, by a mere touch of the finger . . . and the electricity used is no more than would operate a tail light.

Your control of the temperature in your car is absolute and complete whether you drive in the bitterest of sub-zero weather or the mildly chilly days and evenings of spring, summer and autumn. Use it in summer for forced cooling ventilation.

There is a HaDees Heater to fit every size car. Front dash models for Sedans and Coupes, a special model for Ford cars, and a DeLuxe Rear Seat Heater.

See your nearest dealer.

Every HaDees Heater guaranteed by the world's largest bonding house, the National SuretyCompany. Their Gold Bond Guarantee of quality adds no extra cost to you.



Fan-forced heat in all models.

Front dash installation showing heat deflector.

HaDees
non-freezing fluid

HaDees non-freezing fluid, the never-failing, economical, all-winter radiator fluid.

Ask your dealer.

LIBERTY FOUNDRIES COMPANY, *Rockford, Ill.*
(A Division of Burd Piston Ring Co.)

HāDees HOT WATER **CAR HEATER**

PATENT NOS. RE17131 and 1746566

Fortune Supplement: Trends & Men

Gold Continues Move to France

THE U. S. last month found itself definitely in the ranks of the gold-losing countries, saw also every prospect of continuing to lose gold for some months to come. Most of the gold traveling abroad was headed for France, which, whether or not it is hoarding gold, has certainly continued to accumulate it. In July of 1929 the Bank of France showed gold holdings of 36,786,000,000 francs. It closed July, 1930, with gold holdings of 44,911,000,000 francs. The U. S., with a gold supply of about $3,000,000,000, is still far in the lead, France having about $1,750,000,000 and England about $750,000,000. In smaller figures, for every U. S. dollar in gold, France has about fifty-eight cents and England about twenty-five cents.

Failure of U. S. industry to recover after the market collapse of last fall was virtually certain to produce a flow of gold from this country to France. During 1928 and 1929, when our bull market was at its height, we shared with France the capacity to attract gold. But the end of our bull market was also the end of our position as gold magnet, and France has at present little competition for the distinction of great gold-charmer. Our interest rates are no longer high; our industries are no longer feverishly expanding their capital structure; there remains no compelling reason why the world's money should come to America.

Why that same money should continue to be so predominantly Paris-bound is not so easily determined. In London (which until now has been the unwilling source of most of the French gold supply), France is accused of piling up an unnecessary gold reserve, and much British and European depression is blamed upon France's alleged activities in gold-cornering. The French, on the other hand, deny any manipulation; insist, indeed, that they want no further gold imports since the existing supply already threatens an inflation. They maintain that a considerable portion of their gold income still represents French capital invested abroad during the post-War demoralization of French finances, and point out that the tourist business (which has reached the proportions of a great French industry) produces a seasonal inflation which is certain to end with the summer that caused it. France is today one of the very few countries in which food prices, general retail values, and the cost of living are increasing. This acceleration of French industry, compared to a general deceleration of world industry, is the least sensational but most logical explanation of the flow of gold toward France.

Meanwhile, there is certainly nothing remotely approaching a gold famine in the U. S., and a good deal more gold can depart from American shores without much influencing interest rates in this country. It is also a great deal better for New York rather than for London to be the chief contributor to the French gold supply. Release of pressure on London is indeed the most encouraging international significance of the current movement in gold.

Trust Shares Off 25 Per Cent

A SHARE of stock in an investment trust represents a certain fractional ownership in the securities held by the trust and nothing whatever more. If the trust should liquidate, should sell its holdings, the owner of each of its shares would receive his fraction of the cash received. The market value of a share of stock in the trust, therefore, should in theory equal liquidating value.

A year ago, however, stock in investment trusts sold on the market at a premium of anything up to 100 per cent over the liquidating value. There were two possible explanations: one, that in the bull market of a year ago any stock was worth more than its value; two, that the judgment of the trustees was so sound and their skill in investment so great that a share of stock in their hands was worth a quarter more than it would be worth in the hands of the citizens.

This year stock in investment trusts sells on the market at about 25 per cent below its liquidating value (as appears from the list below). There are still two explanations. But it is easier to believe that in a bear market any stock is worth less than its value than to believe that the judgment and acumen of these same trustees has now so altered that a share of stock in their hands is, by that fact alone, deprived of a considerable fraction of the value it would have in the ordinary investor's pocket. In the table printed below are listed some important investment trusts, their liquidating value (in most cases as of June 30), and their market value on the same day:

	Liquidating value	*Market value*
American European Securities	$48.83	$34.50
American Founders*	16.85(A)	12.75
Blue Ridge Corp.	9.84	8.625
Capital Administration (A shares)	22.15	14.25
General Public Service	28.08	34.00
Goldman, Sachs	30.16	23.50
Insuranshares Certificates, Inc.	13.31	10.00
International Carriers	17.53	13.00
International Superpower	43.34	33.00
Investors Equity	26.36	16.00
Lehman Corp.	89.86	70.25
Second National Investors	19.61(B)	8.25
Third National Investors	39.42	25.125
Fourth National Investors	45.39	31.00
Prince & Whitely Trading	12.29	13.50
Reliance Management	13.32	10.125
Reliance International	9.25	8.00 bid
Sterling Securities (A)	6.26	10.50
Tricontinental	15.45	12.125
Ungerleider Financial Corp.	49.52	25.00
United Founders*	27.74(A)	31.25
U. S. and Foreign securities	26.65	17.62
Vick Financial	9.26	6.50

A—On a parent company basis, taking holdings in subsidiaries at market.

B—Giving effect to possible conversion of preferred and excluding possible exercise of options outstanding on common.

* *Figures as of May 31, 1930.*

Beth's and Other Salaries Probed

SPECIFICALLY the discussion was started by Cyrus S. Eaton. His reason for it was to offer another point against Youngstown Sheet & Tube's merging with Bethlehem: Bethlehem pays its executives too much. Doubtless it gave Mr. Eaton great pleasure to uncloak, in the courtroom, that thing about which all corporations are reticent. Eugene Grace, asked what his salary was, gladly said, "$12,000." This was patently absurd, so the court probed into his bonus arrangements, learned the vague fact that 1.5 per cent was the factor used in determining the Grace bonus.

Everyone guessed that it was 1.5 per cent of the company's net earnings, and that last year it came to $738,000. A few days later, Mr. Grace testified that the actual amount was $1,623,753. The 1.5 per cent was correct, but it was the minimum of a sliding scale.

As startling as the size of Mr. Grace's bonus was the subsequent disclosure that Chairman Schwab receives a salary of only $150,000 a year, is entitled to no bonus. During 1929 the total Bethlehem bonus distributions were:

	Bonus	*Salary*
E. R. Grace, president	$1,623,753	$12,000
H. E. Lewis, vice president	375,784	10,000
C. A. Buck, vice president	378,664	10,000
Quincy Bent, vice president	378,664	10,000
F. A. Shick, controller	216,729	6,000
R. E. McMate, vice president and secretary	134,538	6,000
J. M. Cross, vice president	110,077	6,000
J. H. Ward, vice president	54,305	3,000
C. R. Holton, dir. of purchases	48,923	10,000
J. M. Larkin, assistant to president	36,692	10,000
A. Johnston, secretary	24,462	10,000
W. J. Brown, assistant treasurer and secretary	18,345	7,500
J. P. Bender, treasurer	18,345	7,500
W. M. Tobias, former director of purchases	6,025	6,000
	$3,425,306	$114,000

An amazing disclosure, its result was a general inquiry into salaries. But little can be learned. If Mr. Grace is worth $1,635,000 a year—

what was the late Judge Gary worth? It is understood that his salaries plus bonuses never exceeded $500,000 a year, although when the government was attempting to dissolve the Steel Corporation the figure was popularly supposed to be nearer $1,000,000. In this connection, there stands John D. Rockefeller's reply as to whether $100,000 was too much: "You may think so, but if U. S. Steel would like to dispense with Mr. Gary's services, I stand ready to make him an offer of $1,000,000 a year to work for Standard Oil."

In the motor industry, big salaries are frequent. When Walter Chrysler worked for John Willys, he received $750,000 a year, plus bonuses said to carry it over $1,000,000. In General Motors, executives become rich not through salaries or bonuses but the profit-sharing Management Corp. Thus in 1928 Mr. Raskob was quoted: "They say that Carnegie made thirty millionaires over a period of years. Well, we made eighty millionaires in four years in General Motors."

Walter Teagle, in 1923, received a salary of $125,000. Between 1919 and 1924 the spectacular William M. Wood of American Woolen took $1,000,000 a year and made the company pay his income tax. George Gordon Crawford, whom Jones & Laughlin Steel recently snatched from U. S. Steel, is said to have a $250,000 a year contract. Walter Gifford is reported to receive $250,000, which is generally considered the limit in a standard business. Sir Henri Deterding has a life contract (signed thirty years ago) giving him £300 a year plus 3 per cent of the net profits. This runs to almost $5,000,000 in a good year and thus exceeds Mr. Grace's stipend.

Perhaps one reason why this disclosure concerning Mr. Grace caused so much excitement is the present state of business, which makes large figures loom much larger. For Mr. Schwab has many times referred to his "million-a-year-executive"—a fact which should disprove the story that Bethlehem's vice presidents were thrown into a terrific state of frenzy at learning how much their chief received. Calm amidst the discussion was the pontifical New York *Times*. Its comment:

"The fact that Mr. Grace received such compensation as an operating executive came as something of a shock to many in the financial community. It required Mr. Grace's own testimony to convince the sceptics.

"For the first time, compensation in industry has reached a level comparable with that attained in the motion picture business. Mr. Grace, it develops, receives as much as such luminaries as Douglas Fairbanks and Charlie Chaplin. This comparison could not be avoided."

Smelters Grows; Metals Decline

FEW American tycoons are as internationally-minded as the Brothers Guggenheim, masters of the American Smelting & Refining Co. "Smelters" has properties in Mexico, South America, and Newfoundland, as well as in Texas, Arizona, Colorado, and Utah. And, because the Brothers Guggenheim are alert opportunists, last month Smelters' influence was extended to Queensland, Australia, and Africa —though chiefly Australia.

Control of Australia's Mt. Isa, whose heart is a heart of lead, rests in England's Mining Trust, Ltd. Last month Mining Trust needed some cash. Smelters, in return for a "substantial interest" in Mining Trust, furnished enough cash to develop the Mt. Isa properties and to construct a new refinery, and agreed to let Mining Trust use the efficient Smelters technical staff for at least ten years. Also, through Mining Trust, the Guggenheims finally have a small stake in Rhodesian copper.

Meanwhile, African copper loomed larger against the clouded horizon of the American industry. New refineries for African metal were talked of in Liverpool and Hamburg. The potent Union Minière du Haut-Katanga (approximately 60 per cent owned by the Belgian Government) acquired an 18 per cent interest in Europe's largest brass manufacturing plant, the Hirsch Copper & Brass Works of Germany, thus falling into an alliance with Lord Melchett's Imperial Chemical Industries, Ltd., holder of 25 per cent of Hirsch stock.

These developments transpired in the face of a heavy, dull metal market. Copper on July 22 reached a new low of eleven cents, the lowest since 1902, although two cents above 1894's poorest price. Stocks of copper on hand continued surprisingly large, and there were many indications that production may be curtailed even further.

Tin continues in worse straits than the red metal. Almost 100 Malayan mines have closed down for at least two months. The stocks of tin on hand are tremendous, and the tin companies have not, like the copper companies, large cash reserves. In London an association is being advocated by a large accounting house. Its members will not be tin companies, but their shareholders.

Lead, in which production has been curtailed, remains in a better position, statistically, than other metals. Reflecting this, prices are firm and show signs of having seen the bottom.

Earnings Drop 23 Per Cent

Average net earnings of some 250 important companies showed a decline of approximately 23 per cent for the first half of 1930 as compared to the first half of 1929. Below are listed comparative earnings for some representative companies:

	1929 first half	*1930 first half*
Advertising and Printing	*(Estimated to the nearest 1,000)*	
Curtis Publishing	$11,848,000	$12,292,000
Butterick	440,000	373,000
Conde Nast	759,000	857,000
Amusement		
Paramount Publix	5,131,000	8,434,000
Radio-Keith-Orpheum Corp.	630,000	2,166,000
Apparel		
Durham Hosiery Mills	151,000	51,000
Adams Mills	442,000	413,000
Real Silk Hosiery	1,041,000	601,000
Automobiles		
General Motors	151,860,000	98,355,000
Hupp	2,831,000	509,000
Packard	14,675,000	5,526,000
Willys-Overland	4,155,000	152,000
Studebaker	11,184,000	2,567,000
Chemicals		
Atlas Powder	1,195,000	725,000
Commerical Solvents	1,798,000	1,498,000
Hercules Powder	2,036,000	1,598,000
U. S. Industrial Alcohol	1,696,000	552,000
Copper		
Calumet & Hecla Copper	2,477,000	574,000
Department and Chain Stores		
F. & W. Grand-Silver Stores	699,000	792,000
Walgreen	1,506,000	913,000
J. C. Penney Company	3,725,000	3,407,000
Food Products		
Penick & Ford.	950,000	1,001,000
Corn Products Refining Company	6,866,000	6,641,000
Coca-Cola	6,492,000	7,182,000
Hershey Chocolates	4,225,000	4,254,000
National Dairy Products Corp.	11,601,000	12,947,000
Household Products		
Procter & Gamble	19,149,000	22,210,000
Lambert	3,809,000	3,764,000
Auto-Strop Safety Razor	371,000	723,000
Kelvinator	1,442,000	1,414,000
Maytag Company	3,236,000	1,382,000
Iron and Steel		
Interlake Iron	1,049,000	1,298,000
Jones & Laughlin Steel	11,306,000	6,959,000
McKeesport Tin Plate	1,085,000	1,514,000
Otis Steel	2,798,000	1,210,000
Acme Steel	1,732,000	689,000
U. S. Steel	96,011,000	67,905,000
Bethlehem Steel	20,812,000	17,769,000
American Metal Company, Ltd	1,658,000	1,272,000
Machinery and Machine Equipment		
Bucyrus Erie	1,505,000	1,507,000
Worthington Pump & Machinery	1,099,000	1,053,000
Superheater	2,210,000	2,436,000
Office Equipment		
National Cash Register	4,407,000	1,686,000
International Business Machines	3,214,000	3,654,000
Oil Producing and Refining		
Prairie Pipe Line	10,975,000	10,550,000
Transcontinental Oil	1,716,000	2,363,000
Skelly Oil	3,199,000	1,284,000
Continental Oil	2,201,000	2,644,000
Phillips Petroleum	8,511,000	10,201,000
Barnsdall Corp.	4,115,000	3,367,000
Railroad Equipment		
General Railway Signal	1,049,000	1,170,000
Westinghouse Airbrake	4,048,000	4,015,000
Restaurants		
Lessing's Inc.	45,000	45,000
Child's	420,000	668,000
Shoes and Leather		
U. S. Leather	1,969,000	196,000
Endicott-Johnson	439,000	1,223,000
Melville Shoe	727,000	956,000
Textiles		
United Piece Dye Works	1,933,000	1,911,000
Industrial Rayon	694,000	900,000
Pacific Mills	663,000	1,139,000

The Welland Canal

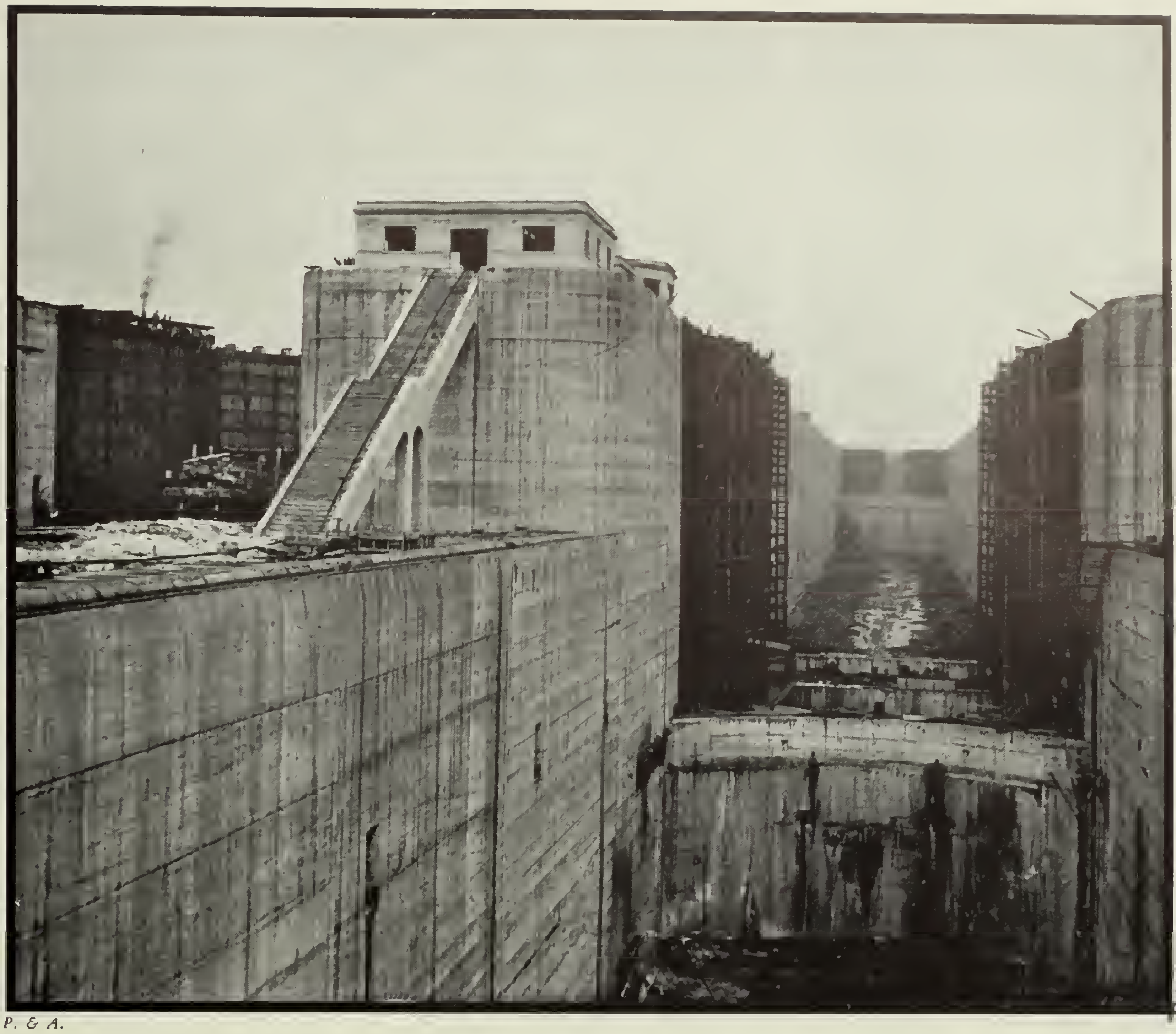
FOR fourteen years the Dominion of Canada has been digging a canal. It is a very complicated and a very superior canal. And also a very expensive one. For by the time it opens on Labor Day, it will have cost $122,000,000.

There was an old Welland Canal. But the old Welland (built in 1829) was a tortuous ditch with twenty-five locks, enabling water traffic to avoid Niagara Falls in passing from Lake Erie to Lake Ontario. It did a rushing business; the great grain year of 1928 saw 131,531,000 bushels go through. But this traffic was created only by unloading grain from ships, placing it on canal barges that took about sixteen hours for the trip. For 90 per cent of the freight ships on the Great Lakes could not pass through the Welland locks.

The new canal not only can handle any ship on the Lakes, but is prepared for the day when ships will be longer, wider, deeper. Its tremendous locks, one pair of which is shown in the adjoining column, are 820 feet long, compared to 270 feet for the old, 80 feet wide against 45, 30 feet deep against 14. Whereas the old canal had 25 locks, the new has only 7. Each of these has a lift of 46½ feet and can be filled in 8 minutes, which is a rate of 5½ feet a minute. Thus the 326½ foot inequality between the levels of the two lakes becomes unimportant. Boats carrying a 600 per cent greater cargo than the old barges can make 100 per cent better time through the canal.

The engineering difficulties involved were great, and among canals the Welland is so nearly superlative as to deserve comparison with the Panama and Suez. One problem was what to do with the Welland River, which threatened to interfere with the canal's straight line. At the cost of $2,500,000 it was placed in a syphon culvert seventy-five feet below the canal.

The presence of this canal, ready for the great grain movements of the fall, will alter the channels of grain commerce. Much grain which previously would have gone to Buffalo for shipment to U. S. ocean ports will now be diverted to the St. Lawrence. Already vast elevators are being built along the upper river. Also, when, if, and as the St. Lawrence channel receives its deepening, the Welland will be a vital link in the triumphant passage of grain ships from upper Superior to the sea.



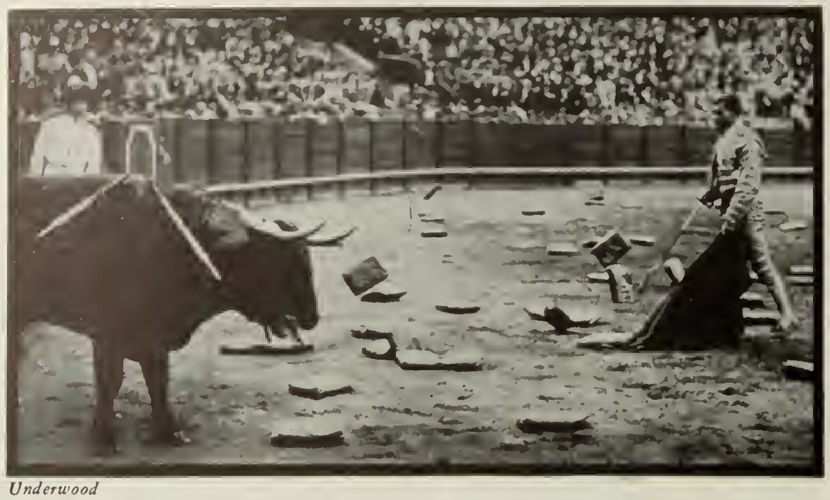
P. & A.

RLINGAME
PUBLIC
LIB.

Ewing Galloway

Faces of

To command a 1,400-mile gasoline pipe line, Daniel James Moran, president of the Continental Oil Company, has been appointed president of the Great Lakes Pipe Line Co. (jointly formed by Barnsdall Corporation and Continental Oil Company).



Underwood

Joaquin Rodriquez, nicknamed "Cagancho" (nightingale) because his father was a great Flamenco singer, is Spain's most popular bullfighter. No longer seen in situations like that in the picture, he is now trailed through the streets by adorers. He will henceforth fight under the taurine code signed last month by King Alfonso. The code will permit him to face bulls maddened by fire darts that explode under the skin. This practice, of much antiquity in Spain, was for a time discontinued under the dictatorship of the late Primo de Rivera as being inhumane.

Keystone

As director of the new Veterans' Administration, Frank Thomas Hines will spend more than any other U. S. department head—$800,000,000, equal to $1.00 out of every $5.00 of U. S. appropriations.

Underwood

W. S. Farish is president of the Humble Oil & Refining Co. and recognized as one of the best production men in the oil industry. Belying its name, the Humble Pipe Line Co. (operating subsidiary) had the largest net—$27,260,314—of the thirty-seven pipe line companies in the U. S. in 1929.

International

In 1922 nine gangsters robbed Arthur W. Cutten of the Chicago grain market and the New York Stock Exchange. Mr. Cutten pledged: "I am going to run these men down if it takes every dollar I have. They locked me in a vault . . . they treated my wife brutally!" His purpose seems to have been fulfilled. Last month one Casper Rosenberg, alleged ninth and last of the gang, walked into the State Attorney's office of Dupage County, Illinois, and surrendered himself. Mr. Cutten presumably is content, for he has been quoted as considering his man-hunting activities far more important than his various market successes or problems.

Many a woman could be the wife of a president of Chase National Bank and Comptroller of U. S. Currency without learning much about money. But Mrs. A. Barton Hepburn is said to have tripled her husband's estate since his death, eight years ago. She was recently elected a director of Industrial Banking Corp. of America, whose purpose, likely to be profitable as well as philanthropic, is to advance small loans at reasonable interest rates to economically unimportant persons on the collateral of their earning power and character.

Underwood

International

Plans for three private houses on Manhattan Island have been filed so far this year. A home for Herbert N. Straus (left), vice president and treasurer of R. H. Macy & Co., president of L. Bamberger & Co., Newark, and strong Hoover supporter, will be the most pretentious of the three. Located at 9 East Seventy-first Street, a few doors from Fifth Avenue, it will cost $400,000 on land assessed at $225,000. Henry Rogers Winthrop (right) will build a house at 120 East Seventy-eighth Street for his daughter, Mrs. Robert G. Payne. It will cost $100,000. Mr. Winthrop is director of the Chase National Bank, vice president of the Metropolitan Opera Co. and of the English-Speaking Union, director of the Wabash and Long Island railroads. The third home-builder is Stuart S. Unz of Unz & Co., manufacturing printers specializing in color work. The firm of Unz does many ships' plans, posters, booklets for steamship companies; the house of Unz will be located on the corner of Riverside Drive and Eighty-second Street.

International

BURL
PUBL
LIE

the Month

Keystone

International

A report, too persistent to be discredited, links the International Mercantile Marine and the Roosevelt Steamship Company in a merger. President of the Roosevelt line is Kermit Roosevelt (above). P. A. S. Franklin (left), president of I. M. M., it is said, will be president of the joined lines.

Keystone

Jules Hauvette Michelin heads the U. S. subsidiary of Andre Michelin et Cie., largest European tire-makers. His employees at Milltown, New Jersey, forced out of work by the closing of the plant four months ago, are credited in the Michelin books with $700,000 from a cumulative yearly bonus. By thus giving credit to his employees, Mr. Michelin broke a rule of his company which provides that no bonus shall be paid until the employee has been off the pay roll three years. Typically French, the purpose of the rule is to insure and reward a three-year loyalty of former employees, to dissuade them from giving away secret Michelin processes, securing Michelin customers

Keystone

The climax of the Soviet-U. S. trade controversy, attended by much Soviet-baiting, was reached when Assistant Secretary of the Treasury Seymour Lowman forbade entry into the U. S. to six ships laden with Russian wood pulp on the grounds that the pulp was produced by convict labor. Among many words on the subject, those which carried most weight came from Paul D. Cravath, world-famed corporation lawyer. Mr. Cravath urged an immediate economic discussion between Russia and the U. S., drew a parallel between Mexico and Russia, suggested that a man of the type of Mr. Dwight Morrow should be dispatched to Russia.

When the late grim John Gottlieb Wendel died more than a decade ago he left real estate holdings on Manhattan Island worth something more than $100,000,000. To his inheriting sisters, whom during his lifetime he mercilessly dominated, he left a tradition that was a command: "Buy, but never sell." The Wendel holdings were Manhattan's largest. Little more than a month ago Mrs. Rebecca Wendel Swope, next to last of John's six sisters and the only one to defy his command never to marry, died. Her will also broke a Wendel tradition, dispersed most of the holdings to various charities, stipulated that such of the holdings as went to Ella Wendel, sole surviving sister, should after Ella's death also go to charity. Methodism profited most and especially its Board of Foreign Missions, treasurer of which is Dr. Morris W. Ehnes (left) who, during the board's last fiscal year, supervised the disbursement of $2,622,484.41, and is extremely energetic in securing gifts. *If* the Wendel estate is worth $100,000,000, then Nanking (China) Theological Seminary will get the colossal sum of $17,500,000, by far the greatest gift ever made to a missionary enterprise.

Blank & Stoller

P. & A.

John Barry Ryan Jr., (above, with his wife, the daughter of Otto Kahn) is the grandson of Thomas Fortune Ryan. He has worked ten years as reporter in Philadelphia, London, New York, and Newark, New Jersey. In the last named city he has, this summer, begun to publish the *Free Press* to compete with the tabloid Newark *Ledger*. To date, the *Free Press* circulation is 16,000, that of the *Ledger* some 56,000.

Frederick H. Bedford Jr., director of Standard Oil Co. of New Jersey and son of the late F. H. Bedford, longtime S. O. N. J. vice president, announced that his and affiliated oil companies would sell automobile tires from their service stations (see page 102). The inspiration to do so, he said, came from the mail order houses.

Underwood & Underwood

ALBERT H. WIGGIN, *born February 21, 1868, at Medfield, Massachusetts; now of New York and Greenwich, Connecticut*

Underwood & Underwood

GEORGE HENRY DORAN, *born December 19, 1869, in Toronto, now of New York and London*

Underwood & Underwood

RICHARD BEDFORD BENNETT, *born July 3, 1870, at Hopewell, New Brunswick, Canada, now of Calgary, Alberta*

Keystone

DOUGLAS MACARTHUR, *born January 26, 1880, in Little Rock, Arkansas, now of Washington, D. C.*

P. & A.

MRS. ELEANOR MEDILL PATTERSON, *born in Chicago, Illinois, now of Washington, D. C.*

Underwood & Underwood

HARRY FORD SINCLAIR, *born in Wheeling, W. Va., July 6, 1876, now of New York and Great Neck, L. I.*

Underwood & Underwood

W. CAMERON FORBES, *born in 1870 in Milton, Massachusetts, now of Norwood and Naushon Island, Massachusetts, and Tokyo, Japan*

Career Milestones

¶Important milestones in a career that has recently been thickly dotted with milestones was Albert Henry Wiggin's assumption of a directorship in Harris, Forbes Corp. With Mr. Wiggin as head of Chase National Bank and with Chase National Bank as world's largest bank, everyone is familiar. With Mr. Wiggin as poker-liking banker with many friends and as Unshaken Pillar during the 1929 market break, FORTUNE readers are familiar [FORTUNE, June, 1930]. There remains the significance of Mr. Wiggin's new position, a position resulting from the purchase by Chase of Harris, Forbes. This significance may be summed up by stating that whereas Chase Securities Corp., Chase National's investment affiliate, has been a large influence in utility financing, and Harris, Forbes has been a very large influence in utility financing, the two together should be able to handle utility financing on a basis adequate even for the tremendous light and power expansion and consolidation looked for in the future.

¶She is supposed to have the most beautiful voice in Washington. She wears Vionnet gowns. She has written two novels. She married the Count Gizycka and had one daughter, Felicia, who now calls herself the Countess Gizycka. Her second husband was Mr. Elmer Schlesinger, who died last year of heart failure. At the request of her mother, she has taken back her maiden name and calls herself Mrs. Eleanor Medill Patterson. She is the sister of Joseph Medill Patterson, publisher of the Chicago *Tribune*, the New York *Daily News*, and *Liberty*. She has made several attempts to buy or lease the Washington *Herald* from Mr. Hearst. Her efforts have always failed, but Mrs. Patterson at last secured an editorial position. She is now editor-in-chief of the newspaper she was unable to buy. Her first act as such was to ridicule reports that Mrs. Alice Longworth would campaign for Mrs. Ruth Hanna McCormick.

¶Few figures are as well known in publishing circles as that of the debonair George Henry Doran. Last month came the surprising news that he had deserted his own Doubleday, Doran & Co. to assist Hearst book and magazine publishing.

¶A milestone in anybody's career would be the building of a billion dollar corporation. And it has been frequently reported that Mr. Harry Ford Sinclair wants to do just that, although he has never publicly committed himself to the desire and his friends say they have never heard him mention it. At any rate, a step in that direction was taken when Sinclair Consolidated Oil Corp. (in one of the largest cash transactions in history) sold its half interest in Sinclair Pipe Line Co. and Sinclair Crude Oil Purchasing Co. to Standard Oil Co. of Indiana, which already owned the other half. The price was $72,500,000. By the deal, Mr. Sinclair is supposed to have paved the way for purchase of Prairie Oil and Gas Co. and Prairie Pipe Line Co. In this way Mr. Sinclair would approach a huge and very rich unity in the West and Midwest. But no matter what he intends, by his unprecedented cash transaction Mr. Sinclair, who once failed miserably as a cautious pharmacist, has again written his heavy signature in the books of oil.

¶For nine years (with only one slight interruption) no Prime Minister of Canada has been a Conservative. This served to make more startling the recent overwhelming Liberal defeat by the Conservative Party ably and vociferously led by the portly, genial Mr. Richard Bennett, once counsel for the C. P. R. and ten times a millionaire. The issue was tariff. Mr. King held for a "countervailing" tariff which would approximately duplicate on all items the duties imposed by the U. S. Hawley-Smoot bill. Mr. Bennett, the victor, wanted an even higher tariff and was also unwilling to grant "Imperial Preference" to his mother country. While Canadian friends congratulated Mr. Bennett on his signal victory, the New York *Times* mournfully estimated that the victory would cost the U. S. a $500,000,000 loss in trade.

¶The grandfathers of W. Cameron Forbes were Ralph Waldo Emerson and John Murray Forbes, China merchant and financier, of whom Emerson remarked: "It is, of course, that he should shoot well, ride well, sail well, administer railroads well, carve well, keep house well, but he was the best talker also of the company." Similarly versatile and westward-turning, "Cam" Forbes climaxes this movement this summer as he takes his post as the new U. S. Ambassador to Japan. A convivial but strictly temperate bachelor, he has heretofore diverted himself with polo, of which he is both a player and New England's greatest patron. He has busied himself with being senior partner of his grandfather's Boston mercantile house, Governor-General of the Philippines, head of President Hoover's Haitian commission. As a director of A. T. & T., his picture also appears on page 92.

¶Descendant of a well-known family of soldiers, Douglas MacArthur, brother of the late Captain Arthur MacArthur, was until one day last month the youngest major general in the entire U. S. Army. Last month he was appointed by President Hoover to the highest position possible in the Army, Chief of Staff, with the rank of general to succeed retiring General Summerall. He is the youngest man ever appointed to the office, and his only two superiors will be the President and the Secretary of War. In 1903 when he was graduated from West Point he was first honor man.

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Shetland

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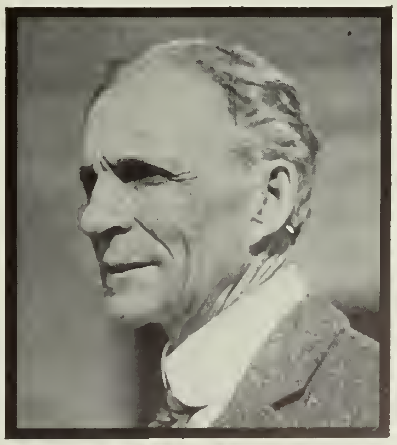
BURLINGAME
PUBLIC
LIB

Farm Problem: One Angle

HENRY FORD stated on his sixty-seventh birthday (July 30) that there was no such thing as overproduction. He said that new uses should be discovered for wheat.

Taking sharp issue with Mr. Ford is the Thoroughbred Horse Association of America. In 1928 Mr. Dinsmore, secretary of the Association, bet that wheat would go to seventy-five cents a bushel before 1933. The bet, says Mr. Dinsmore, is still good. And why? Because of the automobile. Tractors have replaced millions of horses and mules in farm work. A horse or a mule consumes annually the product of two and one-half acres of land. When a farmer buys a tractor and displaces two work animals, he is five acres ahead. He plants corn or wheat on the five acres. Half a million farmers with half a million tractors have 2,500,000 extra acres. So they all plant surplus foodstuffs and the world has too much corn and wheat, and grain prices collapse.

Fantastic? But consider horse and mule statistics. There are 6,327,000 *fewer* horses and 110, 000 *fewer* mules on U. S. farms today than in 1920. The acreage required to maintain them is 16,092,500 acres. There are 600,000 *fewer* horses and mules in U. S. cities than there were in 1920. Acreage for them is 2,400,000 acres. Therefore the replacement of animal power with motor power has freed 18,492,500 acres. And most of these acres are producing corn, wheat, and rye in an overproduced world. "We have danced to the motor's tune; now we must pay the fiddler," says the Horse Association. And the farmer, it adds, pays most of all.


Keystone

The argument that grain overproduction results solely or primarily from the dwindling of horses and mules can hardly be granted as readily as the horse people assume it. But that there *has* been an increase in grain acreage; that the world *has* more grain than it needs; and that, despite Mr. Ford, there *is* an overproduction in agriculture, can hardly be denied. While the Federal Farm Board was holding 69,000,000 bushels of wheat off the market, and its chairman, Alexander Legge, was urging farmers to reduce wheat acreage, wheat (September option) sold in Chicago at 85⅝ compared to 147½ only twelve months previously. It was at its lowest price since 1914. World's visible supply of wheat (i. e., wheat actually stored in granaries) stood at 155,194,000 bushels, an increase of nearly 30,000,000 bushels in two weeks. Meanwhile dispatches from Montreal announced that the new Welland Canal would be opened on Labor Day, greatly expediting the movement of grain from the Great Lakes into the St. Lawrence, and dispatches from France announced that wheat there behind tariff walls was selling at $1.71 a bushel.

So low is wheat in the U. S., with a surplus of 200,000,000 bushels, that a large amount is being fed to cattle and hogs and horses instead of corn. The weather intervened (and more effectively than Mr. Legge's exhortations) to reduce the corn surplus. This summer's drought came too late to destroy much wheat.

Note: This article is printed on a reproduction (except for Henry Ford's picture) of the stationery of the Thoroughbred Horse Association of America.

GRAUMAN'S
WELCOME
Bess Schlank
GOWNS & WRAPS

P. & A.

The Forty Ranking Cities

BURLINGAM
PUBLIC
LIB.

THE desire to be biggest is probably a fundamental human motive. It is doubtful whether in some Neolithic Age a child did not boast, "My father can lick yours," and whether, when the father had moved into a village, he did not explain with pride to his wife that their village was larger than the one over the hill and by the fork in the river. In the U. S., in this year of census 1930, is the time for such reflections. And in no city more than Los Angeles, shown above in the flare of an opening cinema night, are the reflections happier. For Los Angeles, once tenth city, has miraculously leaped to fifth city, and its population is more than doubled. Cleveland, fifth in 1920, trails the new fifth by more than 200,000, and is not in the million class. The Hollywood section contributed its fair share, but by no means all. For Los Angeles has awakened to its port facilities and railroads serve it. It dammed the Owens River for cheap power and will build miles of pipe to Boulder Dam and bring the Colorado River to Main Street. For all its sprawling heterogeneity, (it grew like New York by annexing outlying suburbs), it is fast assuming a definitely metropolitan character. And any Angeleno will tell you that by the next census Los Angeles will have passed Detroit and probably Philadelphia.

The first ten cities of the U. S. are:

New York	6,958,792	Cleveland	901,402
Chicago	3,373,753	St. Louis	822,032
Philadelphia	1,961,458	Baltimore	801,741
Detroit	1,564,397	Boston	783,451
Los Angeles	1,231,730	Pittsburgh	669,631

Chicago, the second, finds cause to rejoice for it has passed Paris and becomes the world's fourth largest city (although Paris with its smaller area and more populous suburbs is probably ahead of Chicago as a center of metropolitan population). The five largest world cities are, therefore, New York, London, Berlin, Chicago, Paris.

The second ten of ranking U. S. cities are:

San Francisco	625,974	New Orleans	455,792
Buffalo	572,913	Cincinnati	449,331
Milwaukee	568,962	Newark	444,170
Washington	485,716	Kansas City, Mo.	392,640
Minneapolis	464,674	Indianapolis	364,073

California again has reason to rejoice. For this group in 1920 was headed by Buffalo, now twelfth. The third ten are:

Seattle	363,134	Portland, Oregon	299,122
Atlanta	347,991	Toledo	290,787
Rochester	325,019	Houston, Texas	289,428
Jersey City	316,914	Columbus, Ohio	289,056
Louisville	307,808	Denver	287,644

Of these, Houston more than doubled its 1920 population. The fourth ten are:

Oakland	284,213	San Antonio	254,562
St. Paul	270,883	Memphis	252,049
Dallas	260,397	Providence	251,029
Birmingham	257,657	Omaha	214,175
Akron	256,353	Syracuse	209,277

The population of the entire U. S. is approximately 122,728,837.

reme Electric Clocks

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ı exclusive collaboration with
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esents this superb line of Electric Clocks, including a markable electric alarm clock at only $7.95, colorful tchen clocks, dependable timepieces, and other models ith melodious strike and full Westminster chimes.

MODERN homes, ever proud to *remain* modern, welcome this latest scientific achievement for the home. This is the new series New Haven-Westinghouse Electric Clocks, created through the collaboion of two great old American companies—the New Haven Clock Comny, famed for fine clockmaking for five generations, and Westinghouse ctric & Mfg. Co., the great pioneer in electrical progress.

ɔw you will want an electric clock in your home since you can have e of *these!* No more need you be bothered with springs to wind or oldhioned escapements to adjust. You merely plug the clock into your gulated alternating current outlet, and then year after year the wonderfully nple electric mechanism gives you time-accuracy that ordinary clocks uld never equal. This is because it has the marvelous self-starting subchronous motor, turning at the remarkably low speed of only 200 volutions per minute, producing so little friction as to ensure long life d quiet, trouble-free operation.

a clockmaking event of prime importance, the New Haven Clock Comny presents the Electric Artlarm—the alarm clock for this modern age, iced at only $7.95. You do not have to wind it; just set it for the time you sh to arise, and a most musical tone bids you greet the morning. So autiful is this Electric Artlarm in design and color that it will grace the ost tasteful living room as well.

rhaps most wonderful of all are the electric chime and strike clocks, unding the pure, silvery tones for which New Haven Clocks have long en noted. The chimes are self-adjusting; in setting or resetting the clock, u can be sure the chimes will be "in time".

ıy one of these electric models is a clock by whose master timekeeping u can confidently set the finest watch or any other clock in the home. e these scientific clocks at your nearest New Haven-Westinghouse Authord Dealer's. Beautiful as they are, these clocks are moderately priced.

HE NEW HAVEN CLOCK COMPANY

ew Haven, Conn., *makers of fine clocks for more than five generations.*

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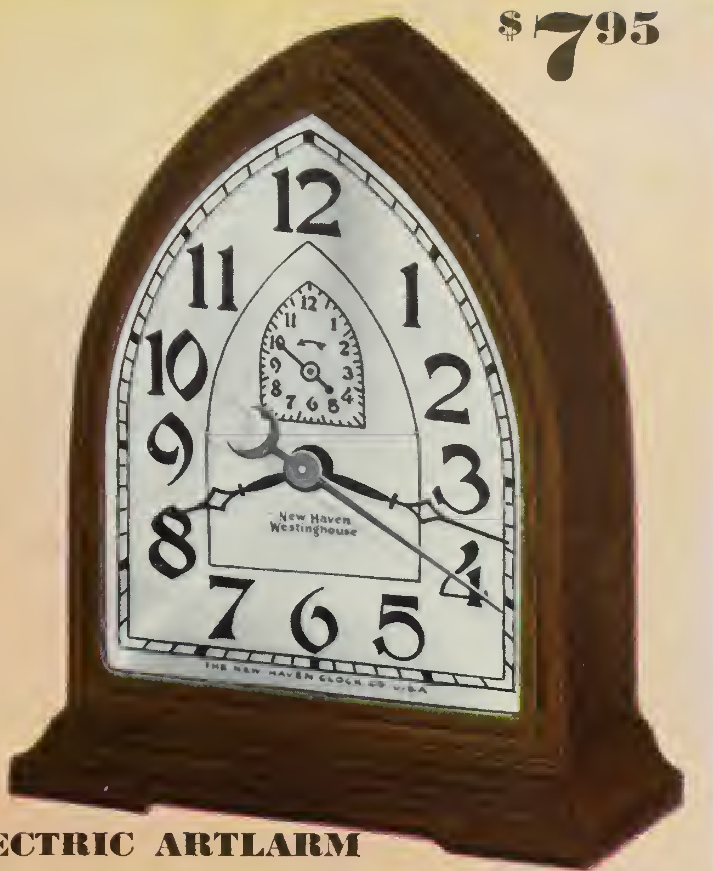

ELECTRIC ARTLARM

THIS is a notable achievement in clockmaking. Its beauty lifts it out of the class of old-style "alarm clocks". While, as a welcome morning waker, this electric Artlarm is dutiful in the bedroom, it is beautiful in any room—a tasteful decoration for any place in the home. But above all it is a real electric alarm clock that you never need to wind. You merely set the alarm, and a musically toned concealed bell pleasantly wakes you for the new day. The moulded case is of an attractive mahogany shade. The numerals against the pleasing dial are easily legible. The large-sweep second hand, making its steady, unobtrusive circles, assures you that this quiet clock is unfailingly telling time, without the daily bother of your winding it. Height, 5¾ inches; width at base, 4¾ inches. With regular dial, $7.95. *With radium dial,* $9.45.

BURLINGAI
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★IMPORTANT.—All New Haven-Westinghouse Electric Clocks (except the Electric Artlarm) have a new invention that makes for unprecedented timekeeping dependability: this is the *Automatic Control,* a simple, remarkable device that minimizes time-error from current interruptions.

These clocks are regularly furnished for 60-cycle, 110-120-volt alternating current.

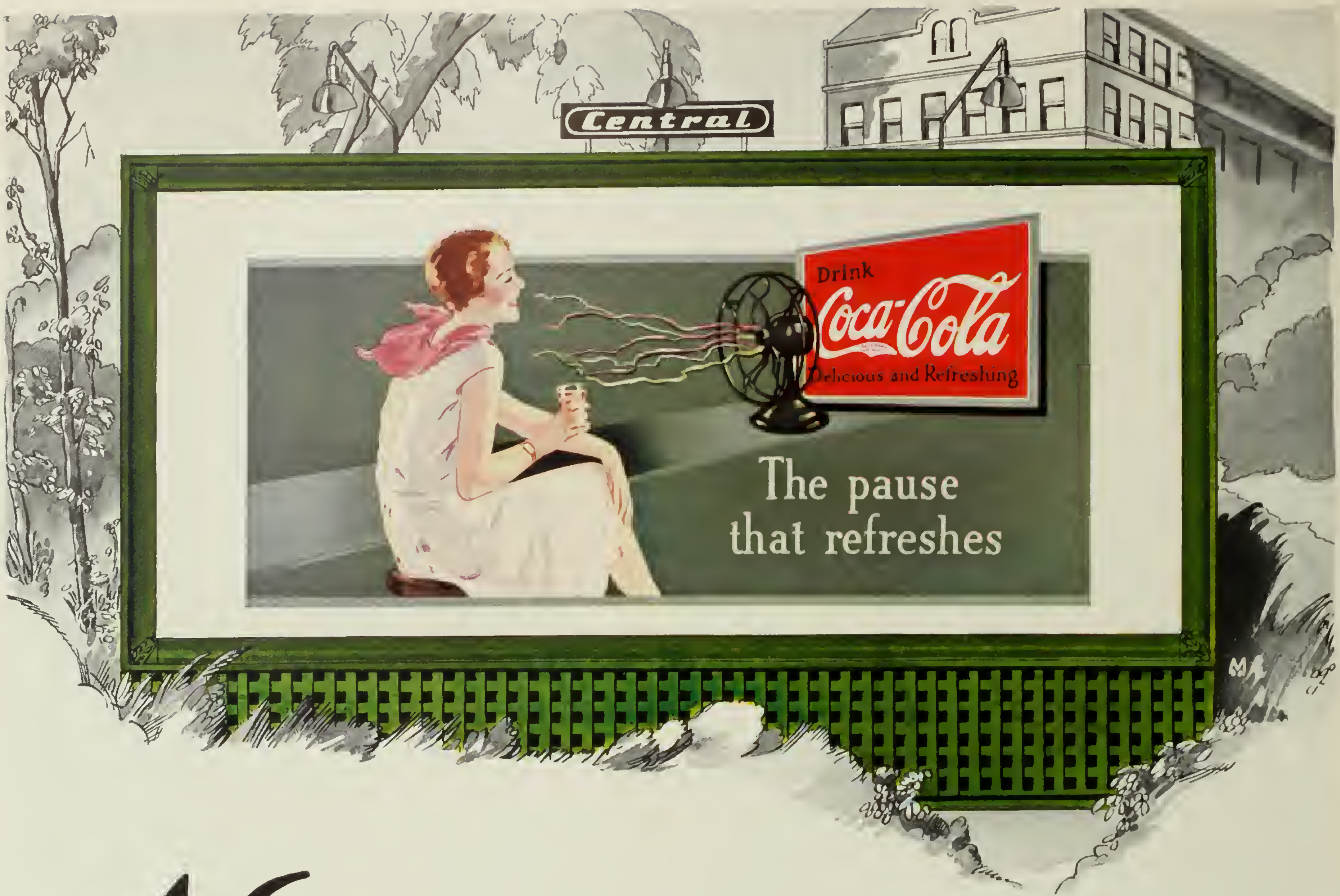
Copr.1930
N. H. C. Co.

ʼRTIA electric kitchen clock of attractive octagon design. It may be had choice of five pastel shades—green, rose, blue, yellow and white, pering harmony with the charming color schemes of today's attractive hens. This clock has a cadmium-plated sash, convex crystal, 5¾-inch m-colored dial, *Automatic Control* ★ and jump second hand. lth, 8½ inches. This clock is an extraordinary value . . . $9.95

VALLEY FORGE colonial electric clock with hour and half-hour strike. This delightful model has a rich mahogany-finished case, 5½-inch cream-colored dial, Roman numerals and large-sweep second hand. The mellow coloring of the quaint picture and the style of the case are a true reflection of early American clock design. Possesses the remarkable *Automatic Control* ★. Height, 14 inches; width, 9 inches $25

PLYMOUTH electric banjo clock, with hour and half-hour strike. Mahogany-finished case, decorative panels, attractive top and side ornaments. 6¼-inch dial; raised numerals; large-sweep second hand. Convex dial. Height, 30 inches. With *Automatic Control* ★. . . $35

E ELECTRIC CLOCKS



46 Percent of Total

FORTY-SIX PERCENT of the advertising appropriation of the Coca-Cola Company goes into outdoor advertising, according to the recent statement of an executive of that corporation. The Coca-Cola Company knows how outdoor advertising conscious is the American public, says this executive, and so the company concentrates where results are assured.

¶ When a national advertiser such as Coca-Cola spends 46% of its appropriation for outdoor advertising as compared with 24% for dealer helps, 15% for publication, 10% for radio and 5% for miscellaneous, the pulling power of outdoor advertising must be a certainty.

¶ Color; action; size; flash; constant repetition; all these contribute to deliver the sales message. More and more companies are turning to outdoor advertising today for results.

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WITH a background of style leadership that year by year becomes more firmly entrenched, Grand Rapids, as a producing center of the bulk of the nation's finest furniture, offers distinct and unusual advantages for manufacturers of wood products and furnishings for the home... Here is located America's largest colony of premier stylists and designers; here live loyal workmen of Nordic extraction born to the tradition of sound craftsmanship; here is found a score of plants serving this extensive industry. Panic free, boom free, home owned, healthy, industrially and economically sound, Grand Rapids, with its 200,000 population, is at once a good place in which to live — to work and to play.

If your product is for the home, it can be made profitably in Grand Rapids where circumstance and environment combine for your benefit.

This Bank will help you find greater success!

For 77 years the Old Kent Bank has helped guide the industrial progress of Western Michigan and the civic growth of its city. Among its customers are many manufactories which are the largest of their kind in the world. Our specialized knowledge is offered freely to those contemplating Grand Rapids as a production unit.

OLD KENT BANK

GRAND RAPIDS

West Michigan's Largest

Crude Rubber

(*Continued from page 84*)

the cheapest in the world—far cheaper than any imaginable machine; the conversion of latex into rubber has already had the benefit of high-powered research; and nothing is relatively cheaper than ocean transportation. So it would indeed be a defiance of common sense as well as logic to continue to produce rubber if the world is not prepared to pay thirteen cents for it.

One curious aspect must not, however, be overlooked. Natives own about half the rubber acreage. And of that, about half is in very small lots—a few acres which a man and his wife and ten children can, after a fashion, take care of. The ways of this little fellow are not our ways. The cheaper rubber is, the more he will produce. He may have a potential production of ten pounds a day. If the Chinese merchant will give him ten cents a pound, he will quit for the day when he has five pounds, for fifty cents is all he needs. But if the Chinese will give him only two cents, then he must get out his entire ten pounds. The true low cost of production, therefore, is the point at which a native will collect latex instead of reverting to savagery. And that can hardly be expressed in terms of U. S. cents or British pennies.

Leaving aside these quaint orientalisms, we may conclude that rubber is worth thirteen cents a pound, since that is the cost of its transference from tree to Akron. And a Marxian world might so figure it. But rubber was, after all, planted by Capital, and Capital still feels entitled to a return. The figures happen to work out so that for every one cent above cost of production, Capital gets a little less than 1 per cent return. Thus, if rubber sells for twenty-five cents and costs thirteen cents to produce, the plantation gets approximately 10 per cent on its investment. Thus, from the point of view of Capital, rubber is worth at least 25 cents. But what rubber is worth to Labor or to Capital is one thing, and what it will bring is quite another.

The prosperity of American rubber manufacturers depends not primarily upon the price of rubber, but upon the range of price. If during the next five years, the price of rubber should vary only between fifteen and twenty-five cents, the greatest obstacle to steady prosperity in the American rubber industry would be removed. And, except for brief and insignificant interludes, there are good reasons for believing that such may be the case. The high point of the bracket is obviously more important than the low. Since no commodity ever sold for 00 cents a pound, it is of course the high point that determines the maximum possible range. And in this case it is harder to see how rubber can go beyond twenty-five cents than to see how it can sell, as it does, 30 per cent or 40 per cent below cost of production. Every effort will, of course, be made, first of all to put rubber to twenty-five and then higher. Every scheme to outwit Supply & Demand is even now being discussed in London and Amsterdam. Especially in Amsterdam. The proverbially jovial Dutchman has turned sour. For the first time since the War he is tasting bad times, and he hates it. Things are not so good in Holland; in the Dutch possessions things are terrible. Tea, coffee, rubber, sugar—everything is down, and trade between Holland and her colonies is sick. So the Dutchmen are begging the British to have another restriction scheme. Between them they do actually control the world's rubber, and if they want to charge forty cents a pound for it, they theoretically ought to be able to manage such a manipulation. But the British are not elated by the prospects. They have been burnt once with restriction. Furthermore, rubber is not as large a *percentage* of the British Empire as it is of the Dutch. Presumably the British think it is up to the Dutch to do some restricting on their own account.

Another restriction attempt may come. But it is hardly likely to be greeted with much alarm in New York or Akron. Great solid facts are all against any "corner" on rubber. There is, first of all, almost no chance that the world's use of rubber will increase with anything like the speed of the immediate past. The original equipment of America with automobiles has, broadly speaking, taken place. And China is not yet ready. There is again the fact of

Business Sagacity

Good common sense is just another mark of *understanding*. It is not rare in business. Only is it *un*common when it is so good that it is prophetic. But then it drops its maiden name and business knows it as Sagacity. Its ready, far-reaching, accurate inference from observed facts and figures, is a dependable power. It visions the human motives in conduct, and foresees results. With Integrity it is the most valuable of all human qualities in business.

Once, Sagacity considered itself a special gift of Providence—an inheritance from the family "Sage" tree, and only those who dropped therefrom had it.

But Modern Accountancy has changed even that. Business Sagacity today is just another mark of *understanding business*. And *understanding business* is largely the mark of Modern Accountancy.

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The Securities of Ohio Corporations

which include those of many companies that are vital factors in the great industrial structure of the United States, have attracted investment capital from probably every state in the Union.

We have maintained for years, in our Cleveland office, an Ohio Securities Department, devoted exclusively to Ohio securities, listed and unlisted, which is now being used by investors in all parts of the country. It is supplemented by offices in Cincinnati, Columbus, Toledo, Canton, Massillon and Akron, Ohio, private wire connections and memberships in the Cleveland, Cincinnati and Columbus Stock Exchanges. Through this department we offer a highly specialized service in Ohio Securities.

OTIS & CO.
Established 1899
NEW YORK CLEVELAND CHICAGO
Members New York and other leading Stock Exchanges

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Consulting Engineers
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THE value of a customer is in direct proportion to the profit which accrues from your transactions with him. The elimination of non-profitable customers is a definite step toward creating a more adequate return on invested capital.

"Customer Selectivity" is the title given to a report prepared by Bigelow, Kent, Willard & Co., Inc. We shall enjoy sending you a copy upon request.

PARK SQUARE BUILDING, BOSTON

Crude Rubber

[*Continued from page 141*]

reclaimed rubber. Even now one part of reclaimed is being used for every two parts of new crude. The higher crude rubber prices go, the greater will be the use of reclaimed. Again, tire manufacturers have probably passed forever out of the hectic years of youth. The spectacle of Americans bidding against each other feverishly and for insufficient reasons is unlikely to be repeated. Finally, there is above all the fact of Nature. The only way to cancel the fact of 7,000,000 acres which are about to produce 250,000 *tons* more than we can use is to deliver the trees to jungle. And even that is not permanent cancellation, for at the slightest provocation they can be rescued again from the jungle that swallowed them.

It must, of course, be borne in mind that despite its ghastly ultimate failure, the Stevenson Act *did* succeed temporarily in putting the price of rubber up—way up. Theoretically the Dutch and British could demand for their rubber almost anything they jointly asked. But in practice such schemes have almost always been disastrous to the schemer. In the case of a new rubber restriction plan, the best chance of success would seem to lie in providing for us more than a fair return on capital. If, on top of the cost of production, the planter gets 10 per cent to cover capital charges and profit, he may consider himself lucky. That would mean rubber at about twenty-five cents a pound. And if rubber never went beyond thirty cents a pound, the American manufacturer could have little complaint.

As far as the American public is concerned, it may consider its supply of crude rubber as in the nature of a gift. For if 7,000,000 acres were planted for us free of charge around Akron, we could not extract the rubber for fifty cents a pound. We shall reap the benefits of labor at the subsistence level without suffering any of the social disadvantages thereof. To be sure, the world may pay some $400,000,000 for the million tons it needs in 1935, which may not sound like free. Since, however, the world, if necessary, would pay $1,000,000,000 or even $2,000,000,000 for that million tons, we may permit ourselves the fancy that rubber is a gift of the Middle East to the world to the extent of a billion or so dollars per year—and mostly to the U. S.

Firestone's President

[*Continued from page 80*]

mechanism until recent years: tires continued for years to be made almost entirely by hand. They were primarily stout fellows who went or were propelled with unparalleled velocity from one event to another. Two of the very stoutest and most likable were Frank Seiberling (5′ 4″) and Harvey Firestone (5′ 6″). The growth of little Akron could almost be measured in terms of their honest rivalry. Frank Seiberling took the Goodyear company to the absolute heights of leadership, only to fall with a mighty thud in 1921. Which Harvey Firestone probably regretted as much as Princeton would regret the defeat of Yale by Harvard.

These stout fellows at Akron (and hundreds of less sturdy men elsewhere) had to contend against two great forces over which they had no control: the demand for their product; the supply of their rubber. When they started business neither they nor anyone else knew what a tire was supposed to be. When they got tires to go 5,000 miles, they thought they knew—only to discover that tires were destined to go ten, fifteen, twenty, thirty thousand miles. When they started business rubber was supposed to be an expensive substance; now it is technically given away, as the next section of this article will reveal. But although or because this year's tire was next year's junk, the chance for profit was enormous. It was the place for stout fellows without special knowledge, but with a heart full of energy and an extra allowance of native middle western common sense.

And, of course, only the stoutest have survived.

ment of the use of latex in liquid form *before* the rubber has been coagulated out of it. When it comes to crude rubber itself, U. S. may feel, again with great justice, that it knows more than any corporation living. It has 100,000 acres *planted* and most of it bearing in the Middle East. These plantations began way back in 1910 and, along with Standard Oil's penetration of the Far East, they constitute one of the dozen or so greatest American industrial achievements abroad (at another time FORTUNE will tell this story in detail). Of knowledge, U. S. has had no lack in scope or intensity.

Knowledge came but wisdom lingered, as many a U. S. stockholder may testify. The financial record of U. S. in the last decade is one of the most unhappy in American annals. From 1920 to 1927 it paid out $50,000,000 in dividends. Accounting is not as exact a science as the layman might think. Concerning depreciation reserves and "write-offs" there can be plenty of difference of opinion. But it would appear that if U. S. Rubber had followed the accounting ideas of its present management only some $20,000,000 would have been construed as profits during the 1920-27 period.

However that may be, it is interesting to note that during this period U. S. got back from its remarkable plantations sums equal to its entire investment therein. This whole period might best be summarized by saying that the first thing the du Ponts did when they took control was to knock off some $15,000,000 from U. S. bookkeeping assets.

For it was the du Ponts. With the vast prestige of Wilmington and General Motors, they took command of U. S. Rubber in November, 1928. They entered upon a domain noble in extent and historic in achievement, but a domain loaded with problems quite apart from the cumulative nonsense of the balance sheet. U. S. had plants scattered throughout the country. Its main tire factory at Detroit was antiquated. Whereas the three Akronites made an average of 15 cents *gross* profit out of every $1.00 sale (before depreciation, inventory loss, etc.), U. S. started off with a gross profit of only six cents. Fortunately, the du Ponts have been rich in the scarcest of all necessities: men. While figures never show such things immediately, the du Ponts were at once able to tip the balance to the side of hope by putting at the top of the asset column the aforementioned Francis B. Davis Jr., who knew practically nothing about rubber. Today, with a disarming modesty, Mr. Davis will say: "I can tell you the elementary facts about this business because I'm in the most elementary class there is." The du Ponts knew Davis from the ground up. When Tew, the Harvard mining engineer, was caught short in Colorado, Davis graduated, a civil engineer, from Yale Sheff. In 1909, the du Ponts hired him as resident engineer of a plant building job. Thence he was put in black powder under Lammot du Pont, after which came sporting powder, the world's greatest guncotton plant at Hopewell, Virginia, the War and smokeless powder, then a sales job to get rid of War-time surpluses, then cellulose, then General Motors, then pyroxylin (Mr. Davis becoming president of the Celastic Corporation which included du Pont's pyralin department), and finally the presidency of the du Pont Viscoloid Company, which developed safety glass (Duplate) and acquired Societe Italiana della Celluloide and Societa Anonima Mazzucchelli.

Keystone

HARVEY S. FIRESTONE JR.

Eldest of Mr. Firestone's five sons, Harvey Jr. is now Vice-President of the Firestone Company.

By Burton Holmes from Ewing Galloway

Of all rubber companies, the future of U. S. holds most interest. Despite its lack of profits it has for years maintained its gross business at nearly $200,000,000, indicating high favor both with dealer and public. From such a volume a profit "ought" to be extractable. While Goodyear seeks its goal of unrivaled leadership in rubber transportation, while Goodrich seeks the stable income to be derived from perfect balance of activities, while Firestone raises the issue of retail distribution, we may watch U. S. to see what difference sheer management can make. For when U. S. preferred sells for $100 a share (it is now $40), when dividends are regularly paid on the common, these devoutly-wished-for events will be final touches in a masterpiece of that art upon which America most prides itself—the art of management.

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C. P. R.

[*Continued from page 47*]

thousand feet of lumber all find their way back to reflect themselves in the value of the common stock. Although C. P. R. has valuable properties in its unsold farm acreage, its coal mines and its gas fields, and in its Consolidated Smelting & Refining Company, C. P. R. is primarily a carrier and its investments in ventures other than steamships and railroads have arisen from the necessity of creating traffic. The potential value of this system is not so much to be found in a revelation of the possible liquidating value of the separate properties as in a visualization of the C. P. R. as the prime mover of raw materials from one of the world's great untapped reservoirs to the great manufacturing and consuming markets of the U. S. and Europe.

The lines of the C. P. R. extend into the outskirts of the greatest timber reserve of the American continent. Billions of feet of lumber are hauled over the road each year to sawmills and pulp mills. Yet the surface of this reserve has hardly been scratched.

The development of the Consolidated Smelting & Refining Company has its foundation in the fact that eastern Canada from the plains to Labrador constitutes one of the richest mineral reserves in the world. The Laurentian Shield is the name given by geologists to a vast area which is composed of about the oldest rocks in the world which see the light of day. This Shield derives its name from the fact that very early in geologic history that whole territory was uplifted into a chain of Laurentian Mountains. The lakes and stern rocks of this section are all that are left of one of the great mountain systems of the world. Through countless millions of years these rocks, once the base of towering mountains, have been subjected to metamorphic changes—and it is change that creates gold, silver, bauxite (aluminum ore), nickel. It is in the region that the great International Nickel Company has established itself. Because this territory is rough and wild it is still comparatively unprospected. Few scientists or geologists doubt that the future developments and discoveries in this vast area will overshadow those of the present and the past,

While American railroads can look forward to a continuation of slow increase in gross and to a continuation in internal growth through still greater efficiency, C. P. R. can look forward to the eventual development of Canadian raw materials and to a greatly augmented exploitation of its natural resources. This development will be fostered as in the past by C. P. R. and as in the past it will share generously in the rewards.

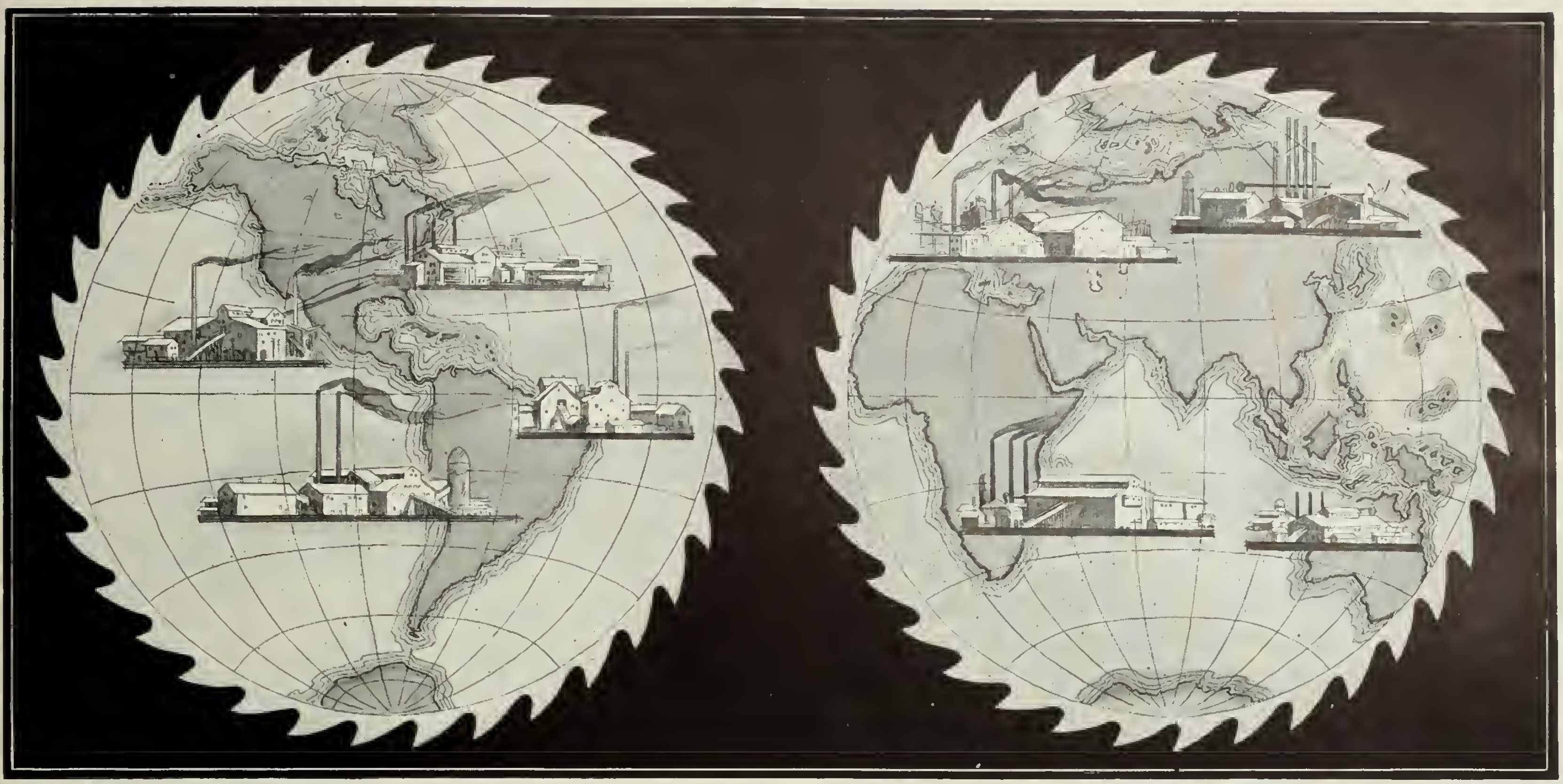
Appendix

Note on Stevenson Act

THE Stevenson Act was a law enacted by the appropriate legislative bodies of the British Empire in November, 1922, and dealt with the exportation of crude rubber from the British possessions in the Middle East; namely, the Malay Peninsula, Sarawak, on the island of Borneo, and Ceylon.

Between 1910 and 1920, 2,868,000 acres of rubber trees had been planted in this territory, and from it was produced 67 per cent of the 1920 world production of crude rubber. The productive capacity was far beyond consumption, and the British Government with extreme reluctance became party to an act to restrict production in this territory and to stabilize prices at the cost of production plus a fair return on capital.

Although designed to limit production, the Act did this through the limitation of exports from the ports of the territories by delivering to each plantation owner coupons representing the privilege of free export of a certain quantity of rubber, this quantity to be a certain percentage of 1920 potential production of his plantation, with some allowance for special cases of underproduction during that year. Exports above the coupons were at prohibitive rates of duty.



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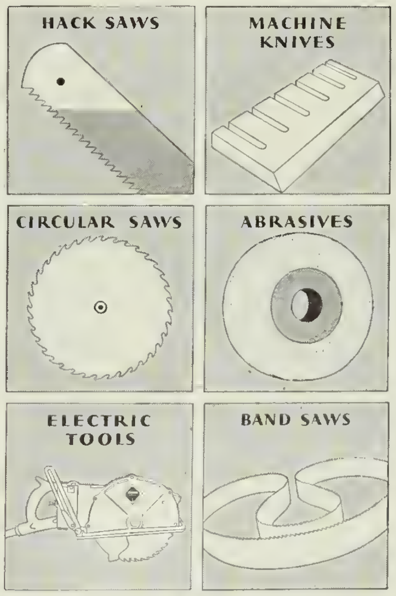

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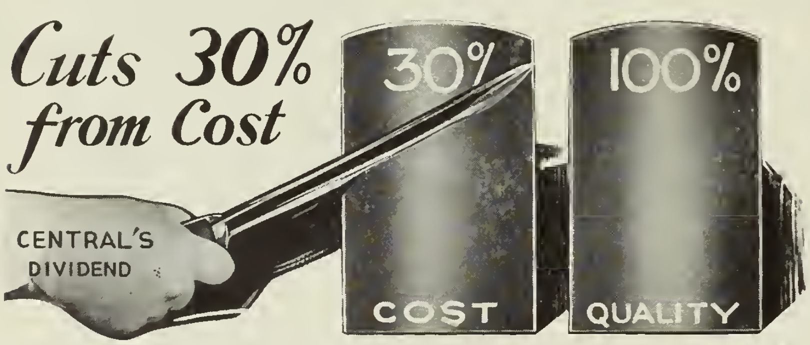

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The cost of production was fixed at ten pence or about nineteen cents, and it was determined to let production increase or decrease as the price went above or below a range of twenty-three to twenty-nine cents.

Increases or decreases in allowable exports were to be made at the end of each quarter, in accordance with the price of rubber in London at the end of the quarter. If the price were below twenty-three cents, the production would be reduced by 5 per cent of the 1920 standard of 100 per cent. If the price were above twenty-nine cents, the production would be increased by 5 per cent, and if above thirty-six cents by 10 per cent.

The figures on costs and pivotal prices given here are in terms of the 1922 value of the pound. As the British increased the value of the pound the prices in cents increased proportionately so that the pivotal prices became in time, in common parlance, twenty-four cents and thirty cents.

When the Act went into effect in November, 1922, the price was showing a rising tendency in anticipation of the effects of restriction and the statistics were as follows:

Stocks	*7½ months*
Price	*20 cents*

The percentage of production (1920—100 per cent) was fixed at 60 per cent.

By the end of the year, the price was thirty cents and the stocks down to six months. The Act was a success thus far.

In 1923 and 1924 the Act functioned in a very reasonable manner. In response to higher prices reaching about thirty-five cents in 1923, the allowable production was increased to 65 per cent. When prices fell shortly, it was cut down again to 60 per cent. In the meantime, Dutch production was increasing by leaps and bounds and rubber consumers, bearish on the future price, allowed stocks to decline. These influences, hand-to-mouth buying and increased Dutch production, were more than the price would stand, and down went the allowed percentage to 55 per cent and three months later, in the face of an advancing market, down to 50 per cent in the latter months of 1924, the high point of restriction. Before the three months period was up, the price was thirty-five cents. If it had been thirty-six cents, a 10 per cent increase back to 60 per cent would have been ordained. As it was, 55 per cent was decreed. Meanwhile, stocks were down to the lowest point in recent history, about three and one-half months, just barely a working basis. Panic took the place of reason. It was not then a question of potential production a year hence, but whether or not U. S. motorists would have to ride on rims by Christmas time. To increase production to 100 per cent would require at least a year at the rate of 10 per cent every three months. Furthermore, plantations geared to 60 per cent production would have to recruit labor for 100 per cent production, also a matter of time. Production was running behind current consumption, and there was only one-quarter of a year's supply on hand.

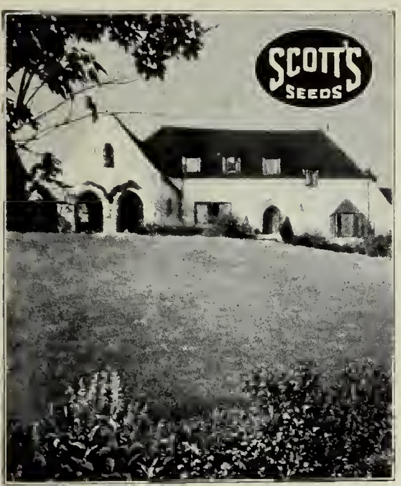
Under these conditions, rubber companies of the U. S. competed with one another to maintain a three months' supply while speculators joined in to say that they would take two weeks supply and let the rubber companies have it for a higher price.

By the time British production was 75 per cent, rubber was a dollar a pound, and it was not until rubber had retraced its steps from a dollar to eighty-five cents that 100 per cent production was allowed. The price plunged on down to forty cents by the middle of 1926 when a revised Stevenson Act made restriction again effective.

Through lobbying of crude rubber interests and through antagonism to American interests, created by domestic rubber furor of 1925, guayule plantings, Edison experiments, Firestone Liberian plans, Ford Brazilian plans, and governmental investigations, the pivotal price was advanced from a range of twenty-three to twenty-nine to a range of forty-three to forty-nine.

By stages of 20 per cent, 10 per cent, then again 10 per cent, restriction was 60 per cent again by the spring of 1927, and the prices seemed fairly stable in the thirties and forties. But again the load got too great for the restriction act to carry. Not anxious to make the same error twice, rubber companies protected themselves up to six months supply while by now Dutch and native plantings influenced by restriction of 1922 began to bear fruit. At the same time the natural increase in the production of maturing trees had given to non-British interests a much larger share of the supply.

The law terminated in the latter months of 1928 with restriction of 60 per cent and a price of eighteen cents for rubber. If a success in 1922, it was outdated by 1928. Economic forces too strong to control had come into play. While very little rubber planted during the Stevenson régime came into production before it ended, every Dutch and native tree planted after 1915, that is, every tree planted within five years of the birth of the industry, was becoming a larger and larger producer as each year passed; likewise British plantings were also maturing and although held in control were an increasing burden. The plantings of 1922 to 1927 under the influences of restriction prices will inexorably mature to aggravate the problem each successive year from now until 1935.



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